

SANITARY CODE

STATE OF LOUISIANA

PART XII. WATER SUPPLIES
(LAC 51:XII)

ADOPTED BY THE
STATE HEALTH OFFICER
in accordance with
LSA - R.S. 40:4

APPROVED BY THE
SECRETARY
of the
DEPARTMENT OF HEALTH AND HOSPITALS
in accordance with
LSA - R.S. 40:2

under the general powers and jurisdiction of the
STATE HEALTH OFFICER
and the
OFFICE OF PUBLIC HEALTH
in accordance with
LSA - R.S. 40:5

PROMULGATED
in accordance with
LSA - R.S. 49:951, *et seq.*,
in the Louisiana Register

and

RECOMPILED through
OCTOBER 20, 2004

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Table of Contents

(October 20, 2004 Edition)

	<i>Page</i>
Historical Notes.....	v
Acronyms and Abbreviations.....	vii

Part XII. Water Supplies Louisiana State Sanitary Code (LAC 51:XII)

CHAPTER 1. GENERAL

§101. Definitions.....	1
§103. General Requirements for a Potable Water Supply.....	5
§105. Permit Requirements for a Potable Water Supply.....	5
§107. Provision for Grandfather Systems.....	5
§109. Requirements for Sources of a Potable Water Supply...	5

CHAPTER 3. WATER QUALITY STANDARDS

§301. Mandatory Water Quality Standards for Public Water Systems.....	6
§303. Variances and Exemptions.....	6
§305. (Reserved.).....	7
§307. Responsibility of Owner.....	7
§309. Plant Supervision and Control.....	7
§311. Records.....	7
§313. Public Notification.....	7
§315. Security.....	8
§317. (Reserved.).....	8
§319. (Reserved.).....	8
§321. Reporting Changes or NPDWR Violations in Public Water Supplies.....	8
§323. Filtration.....	8
§325. Treatment Chemicals.....	9
§327. Ground Water Supplies.....	9
§329. Construction and Installation of Pumps.....	11
§331. Well Abandonment.....	12
§333. Reservoir Sanitation.....	12
§335. Distribution.....	13
§337. Storage.....	14
§339. Protection of Suction Pipes.....	14
§341. Separation of Water Mains and Sewer Mains.....	15
§343. Cross Connections.....	15
§345. Connection with Unsafe Water Sources Forbidden.....	15
§347. Connections to Public Water Supply.....	15
§349. Protection During Construction.....	15
§351. Disinfection of Potable Water Supply Systems.....	15
§353. Disinfection of New Water Supplies.....	16
§355. Mandatory Disinfection.....	16
§357. Minimum Disinfection Residuals.....	17

§359. Other Methods of Disinfection.....	17
§361. Variances to Mandatory Disinfection.....	17
§363. Revocation of Variance.....	18
§365. Batch Disinfection.....	18
§367. Records.....	18
§369. Water Shall Be Provided.....	19
§371. Public Drinking Fountains.....	19
§373. Potable Water Loading Stations.....	20
§375. Issuance of Emergency Boil Notices.....	20
§377. Adoption by Reference.....	20
CHAPTER 5. CIVIL PENALTY ASSESSMENT RULE	
§501. Statement of Purpose.....	20
§503. General Provisions.....	21
§505. Calculation of Daily Penalties.....	22
§507. Payment of Penalty/Ability to Request Mitigation of Penalty and/or Adjudicatory Hearing.....	23
§509. Court Appeals.....	25
CHAPTER 7. ACCOMPANYING GUIDELINES TO THE CIVIL PENALTY ASSESSMENT RULE	
§701. Statement of Purpose.....	25
§703. Seriousness of Violation.....	25
§705. Culpability of the Owner and/or Operator.....	26
§707. Classification of Violations.....	26
§709. Mitigation Guidance.....	28
CHAPTER 9. LOUISIANA TOTAL COLIFORM RULE	
§901. Federal Regulations Adopted by Reference.....	28
§903. Coliform Routine Compliance Monitoring.....	29
§905. Coliform Repeat Compliance Monitoring.....	30
§907. Fecal Coliform/ <i>E.coli</i> Analysis Required.....	30
§909. Invalidation of Total Coliform Results.....	31
§911. Total Coliform Maximum Contaminant Level.....	31
§913. Public Notification.....	32
CHAPTER 11. INTERIM ENHANCED SURFACE WATER TREATMENT RULE	
SUBCHAPTER A. GENERAL REQUIREMENTS AND DEFINITIONS	
§1101. General Requirements.....	32
§1103. Definition of Terms.....	33
§1105. Analytical Requirements.....	36
§1107. Calibration _t /Validation of Turbidimeters.....	38
§1109. Calibration _{dra} /Validation of Disinfectant Residual Analyzers.....	39
§1110. Calibration _{pH} /Validation of pH Meters.....	40
§1111. Calibration _{temp} /Validation of Temperature Measuring Devices.....	40
§1112. Cleaning of Analytical Instrumentation.....	41
SUBCHAPTER B. TREATMENT REQUIREMENTS AND PERFORMANCE STANDARDS	
§1113. Treatment Technique Requirements.....	41
§1115. Filtration Performance Standards.....	41
§1117. Non-Filtering Systems.....	44
§1119. Disinfection Performance Standards.....	47
§1121. Design Standards.....	48
SUBCHAPTER C. MONITORING REQUIREMENTS	
§1123. Filtration Monitoring.....	49

§1125. Disinfection Monitoring.....	51
§1127. Disinfection Profiling.....	52
§1129. Disinfection Practice Changes.....	53
SUBCHAPTER D. OPERATION	
§1131. Operating Criteria.....	53
SUBCHAPTER E. REPORTING	
§1133. DHH Notification.....	54
§1135. Monthly Report.....	55
§1137. Disinfection Profiling Report.....	58
SUBCHAPTER F. PUBLIC NOTIFICATION	
§1139. Consumer Notification.....	59
CHAPTER 13. STAGE I DISINFECTANTS AND DISINFECTION BYPRODUCTS RULE	
SUBCHAPTER A. GENERAL	
§1301. General.....	60
SUBCHAPTER B. DISINFECTION BYPRODUCT (DBP) PRECURSOR CONTROL	
§1303. Applicability.....	60
§1305. Monthly TOC Monitoring/Reporting.....	61
§1307. Quartleryl TOC Report.....	62
§1309. Step 2 Bench-Scale (jar) or Pilot-Scale Testing....	62
§1311. Alternative Compliance Criteria.....	63
§1313. Amendment to the Step 1 Required Removal of TOC matrix table under 40 CFR 141.135(b) (2) to Clarify ACC #1.....	64
§1315. Analytical Requirements for TOC,DOC, and UV ₂₅₄	65
SUBCHAPTER C. CHLORITE/CHLORINE DIOXIDE	
§1317. Monthly Report Required.....	65
SUBCHAPTER D. MONITORING PLANS	
§1319. Monitoring Plan Required.....	65
CHAPTER 15. APPROVED CHEMICAL LABORATORIES/DRINKING WATER	
SUBCHAPTER A. DEFINITIONS AND GENERAL REQUIREMENTS	
§1501. Definition of Terms.....	66
§1503. General Requirements.....	66
§1505. Staffing, Equipment, Quality Control and Records...	68
SUBCHAPTER B. PROCEDURES TO BECOME AN APPROVED CHEMICAL LABORATORY/DRINKING WATER	
§1507. Application and Approval.....	68
SUBCHAPTER C. CONSEQUENCES OF NON-COMPLIANCE	
§1509. Public Notification.....	69
CHAPTER 17. LEAD AND COPPER RULE	
§1701. General.....	70
§1703. Certification of Sampling Sites for Compliance Monitoring.....	70

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Historical Notes

March 20, 1984 (LR 10:210) - Chapter XII updated and revised in its entirety.

September 20, 1988 (LR 14:630) - Chapter XII updated and revised in its entirety.

November 20, 1989 (LR 15:969) - amended to include a certification program for commercial, private, municipal, and public water system chemical laboratories; also amended to implement a Safe Drinking Water Program management fee.

(NOTE: The Laboratory Certification Manual for chemical/radiological laboratories is available by contacting: Laboratory Director, DHH-OPH, POB 60630, New Orleans, Louisiana 70160. Additionally, requests for a current list of certified chemical/radiological laboratories and the specific chemical/radiological parameters for which they hold OPH certification in drinking water analyses may be requested at this same address.)

March 20, 1991 (LR 17:271) - adopted the Louisiana Surface Water Treatment Rule (but did not specify that it was to be part of Chapter XII).

July 20, 1991 (LR 17:670) - adopted the federal Total Coliform Rule by reference and also adopted state discretionary rules known as the Louisiana Total Coliform Rule.

August 20, 1991 (LR 17:781) - repealed the Safe Drinking Water Program management fee.

April 20, 1992 (LR 18:387) - adopted Appendix A - Civil Penalty Assessment Rule and Appendix B - Accompanying Guidelines to the Civil Penalty Assessment Rule.

May 20, 1994 (LR 20:545) - amended the definition of National Primary Drinking Water Regulations under § 12:001 to include the federal Lead and Copper Rule and the federal Phase II and Phase V rules.

September 20, 1994 (LR 20:1008) - amended to include the Mandatory Disinfection Rule.

May 20, 2000 (LR 26:1036) - amended to incorporate revised definition of "public water system" and to authorize the state health officer to use an optional procedure for calculating penalties related to public water systems which serve more than 10,000 individuals; sections 12:004-1 and 12:004-2 regarding old turbidity monitoring rules are repealed since they have been replaced by turbidity monitoring rules contained within the LA Surface Water Treatment Rule; LA Total Coliform Rule is designated as Appendix C; LA Surface Water Treatment Rule is designated as Appendix D.

June 20, 2000 (LR 26:1274) - Chapter XII is repromulgated in its entirety by the Office of the State Register to correct printing errors in the May 20, 2000 edition of the LR.

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August 20, 2000 (LR 26:1624) - amended the definition of National Primary Drinking Water Regulations under § 12:001 to include the federal Consumer Confidence Reports Rule; also, section 12:002-6 amended to authorize the state health officer to issue variances to small public water systems (serving less than 10,000 individuals) under USEPA's small system variance criteria.

October 20, 2000 (LR 26:2288) - the rule promulgated on August 20, 2000 is repromulgated by the Office of the State Register to correct printing errors in the August 20, 2000 edition of the LR.

March 20, 2002 (LR 28:502) - Section 12:003-2 relative to operator certification is amended as part of the newly revised water and wastewater operator certification rule (LAC 48:V.Chapter 73) which was adopted this date. All public water systems now required to have a certified water system operator.

April 20, 2002 (LR 28:839) - the March 20, 2002 newly revised water and wastewater operator certification rule is repromulgated in its entirety to correct printing errors. In addition, the effective date of the newly revised water and wastewater operator certification rule (LAC 48:V.Chapter 73) is clarified as April 1, 2002.

June 20, 2002 (LR 28:1318) - the entire Louisiana State Sanitary Code is re-codified into the Louisiana Administrative Code (LAC) format and is now housed in Title 51 (Public Health - Sanitary Code) of the LAC. Chapter XII is now referred to as Part XII and is cited as LAC 51:XII.

December 20, 2002 (LR 28:2513) - the Louisiana Interim Enhanced Surface Water Treatment Rule was adopted by amending and renumbering LAC 51:XII.Chapter 11 in its entirety. Added definition of "substantial renovation" in Section 101.A. Also, amended Sections 323.A and 355.

June 20, 2004 (LR 30:1193) - adopted Chapter 13 "Stage 1 Disinfectants and Disinfection Byproducts Rule" wherein the federal rule is adopted by reference as well as related state discretionary Stage 1 D/DBP rules are adopted. Also adopted Chapter 15 "Approved Chemical Laboratories/Drinking Water". Adopted the 2003 edition of the "Recommended Standards for Water Works". Amended several sections relative to record retention to require a uniform 3 year retention period by the public water system. Adopted calibration/validation regulations for pH meters and temperature measuring devices under the IESWTR (Chapter 11).

October 20, 2004 (LR 30:2325) - adopted the federal Lead and Copper Rule Minor Revisions Rule by reference. Adopted Chapter 17 "Lead and Copper Rule" which includes state discretionary items related to the LCR. Amended Section 301(A) and (B) to include specific references to Chapters 13 and 17 therein.

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Acronyms and Abbreviations (commonly used in the Safe Drinking Water Program)

AO.....	Administrative Order
AOC.....	Assimilable Organic Carbon
ANSI.....	American National Standards Institute
APA.....	Administrative Procedures Act (LSA - R.S. 49:950 <i>et seq.</i>)
ASDWA.....	Association of State Drinking Water Administrators
ASME.....	American Society of Mechanical Engineers
ASSE.....	American Society of Sanitary Engineering
ASTM.....	American Society for Testing and Materials
AWWA.....	American Water Works Association
BAT.....	Best Available Technology
BCA.....	Bilateral Compliance Agreement
[C.....	degrees Celsius or degrees Centigrade
CaCO ₃	Calcium Carbonate (e.g., chalk)
CaOCl.....	Calcium Hypochlorite (e.g., HTH disinfection tablets)
CCP.....	Composite Correction Program
CDC.....	United States Center for Disease Control and Prevention
CFR.....	Code of Federal Regulations
Cl ₂	Chlorine
ClO ₂	Chlorine Dioxide
cm.....	Centimeter
CPE.....	Comprehensive Performance Evaluation
CT.....	Residual Disinfectant Concentration in mg/l ("C") X Disinfectant Contact Time in minutes ("T"), i.e., "C" X "T".
CT _{calc}	Calculated CT Value
CT _{99.9}	CT Value Necessary to Achieve 99.9 Percent Inactivation
CWS.....	Community Water System
DBP.....	Disinfection By-Products
DBPP.....	Disinfection By-Product Precursors
D/DBP.....	Disinfectants and Disinfection By-Products
D/DBPR.....	Disinfectants and Disinfection By-Products Rule
DPD.....	<i>N,N</i> -diethyl- <i>p</i> -phenylenediamine (chemical used in measuring chlorine disinfectant residuals)
DHH.....	Louisiana Department of Health and Hospitals
DOC.....	Dissolved Organic Carbon
DOTD.....	Louisiana Department of Transportation and Development
<i>e.g.</i>	"for the sake of an example"
EPA.....	United States Environmental Protection Agency
<i>et seq.</i>	"and the following"
[F.....	degrees Fahrenheit
FDA.....	United States Food and Drug Administration
FmHA.....	United States Farmers Home Administration
FR.....	Federal Register
FS.....	Federal Specifications
FY.....	Fiscal Year
GAC.....	Granular Activated Carbon
Ge(Li).....	Lithium drifted Germanium Detector
GPM.....	Gallons per Minute
GW.....	Ground Water
GWDR.....	Ground Water Disinfection Rule
GWUDISW....	Ground Water Under the Direct Influence of Surface Water
HAA5.....	Haloacetic Acids (five)

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HOCl.....Hypochlorous Acid
 HCl.....Hydrochloric Acid
 HNO₃.....Nitric Acid
 H₂O.....Water
 HPC.....Heterotrophic Plate Count
 H₂SO₄.....Sulfuric Acid
 ICR.....Information Collection Rule
 i.e."that is"
 IE.....Ion Exchange
 IOC.....Inorganic Chemical
 IESWTR.....Interim Enhanced Surface Water Treatment Rule
 KMnO₄.....Potassium Permanganate
 L or l.....Liter
 LCCA.....Lead Contamination Control Act of 1988 (42 U.S.C.A. § 300j-21 et seq.)
 LCR.....Lead and Copper Rule (40 CFR 141.80 et seq)
 LCWSSIW....Louisiana Conference on Water Supply, Sewerage, and Industrial Wastes
 LOQ.....Limit of Quantitation
 LR.....Louisiana Register
 LRWA.....Louisiana Rural Water Association
 LSA-R.S. ..Louisiana Statutes Annotated - Revised Statutes
 m.....Meters
 MCL.....Maximum Contaminant Level
 MDL.....Method Detection Limit
 MGD.....Million Gallons per Day
 MF.....Membrane Filter test
 mg.....Milligrams
 mg/dl.....Milligrams per Deciliter
 mg/L.....Milligrams per Liter
 ml.....Milliliters
 MMO-MUG....Minimal Medium ONPG MUG test (previously referred to as the Colilert System)
 M/R.....Monitoring and Reporting
 MRDL.....Maximum Residual Disinfectant Level
 MTF.....Multiple Tube Fermentation test
 MTP.....Maximum Total Trihalomethane Potential
 mv.....Millivolts
 NaI(Tl)....Sodium Iodide Crystal Detector
 NaOCl.....Sodium Hypochlorite (e.g., liquid laundry bleach)
 NAS.....National Academy of Science
 NC.....Non-Community
 ND.....Not Detected
 NDWAC.....National Drinking Water Advisory Council
 NOV.....Notice of Violation
 ng/µl.....Nanograms per Microliter
 NH₂Cl.....Monochloramine
 nm.....Nanometers
 NRWA.....National Rural Water Association
 NSF.....National Sanitation Foundation
 NTIS.....National Technical Information Service
 NTNC.....Non-Transient Non-Community
 NPDWR.....National Primary Drinking Water Regulations (40 CFR Part 141)
 NSDWR.....National Secondary Drinking Water Regulations (40 CFR Part 143)
 NTU.....Nephelometric Turbidity Unit
 O₃.....Ozone
 OCCT.....Optimal Corrosion Control Treatment

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OCL⁻.....Hypochlorite ion
 O&M.....Operations and Maintenance
 OPH.....Louisiana Office of Public Health
 PAC.....Powdered Activated Carbon
 PAP.....Polymer Addition Practices
 Pb/B.....Blood Lead Level
 pCi/l.....Picocuries per Liter
 PE.....Performance Evaluation
 P.E.Professional Engineer
 pH.....p(otential of) H(ydrogen)
 P.L.Public Law
 PN.....Public Notification
 POC.....Point of Collection
 PODR.....Point of Diminishing Return
 POE.....Point-of-Entry
 POU.....Point-of-Use
 ppb.....parts per billion
 ppm.....parts per million
 PQL.....Practical Quantitation Level
 PSC.....Louisiana Public Service Commission
 psi.....Pounds per Square Inch
 PTA.....Packed Tower Aeration
 PWS.....Public Water System or Public Water Supply
 PWSS.....Public Water System Supervision program
 RCAP.....Rural Community Assistance Program
 R&D.....Research and Development
 RO.....Reverse Osmosis
 R.S.Louisiana Revised Statutes of 1950 or Registered Sanitarian
 SDWA.....Safe Drinking Water Act (42 U.S.C.A. § 300f et seq.)
 SDWC.....Louisiana Safe Drinking Water Coalition
 SMCL.....Secondary Maximum Contaminant Level
 SMF.....Standardized Monitoring Framework
 SNC.....Significant Non-Complier
 SOC.....Synthetic Organic Chemical
 SRF.....State Revolving Fund
 SUVA.....Specific Ultraviolet Absorbance [= $UV_{254}(\text{in m}^{-1}) \div \text{DOC}(\text{as mg/L})$]
 SW.....Surface Water
 SWTR.....Surface Water Treatment Rule
 T₁₀Detention time in minutes at which 90 percent of the flow passing
 through a vessel is retained within the vessel
 TOC.....Total Organic Carbon
 TCR.....Total Coliform Rule
 THM.....Trihalomethane
 TNTC.....Too Numerous To Count
 TTHM.....Total Trihalomethane
 THMFP.....Trihalomethane Formation Potential
 µg/l.....Micrograms per Liter
 µm.....Micrometers, i.e., microns.
 URTH.....Unreasonable Risk To Health
 U.S.C.A. ..United States Code Annotated
 UV₂₅₄.....Ultraviolet Absorption at 254 nm
 V a.c.Volts alternating current
 VOC.....Volatile Organic Chemical
 WHPA.....Wellhead Protection Area
 WQP.....Water Quality Parameters

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Title 51
PUBLIC HEALTH - SANITARY CODE
Part XII. Water Supplies

Chapter 1. General

§101. Definitions
[formerly paragraph 12:001]

A. Unless otherwise specifically provided herein, the following words and terms used in this Part of the Sanitary Code, and all other Parts which are adopted or may be adopted, are defined for the purposes thereof as follows:

Abandoned Well—a water well that has been permanently discontinued; has had its pumping equipment permanently removed; is in such a state of disrepair that it cannot be used to supply water and/or has the potential for transmitting surface contaminants into the aquifer; poses potential health or safety hazards or the well is in such a condition that it cannot be placed in service.

Auxiliary Intake—any piping connection or other device whereby water may be secured from a source other than that normally used.

Backflow—

- a. a flow condition, induced by a differential pressure, that causes the flow of water or other liquid into the distribution pipes of a potable water supply from any source or sources other than its intended source; or
- b. the backing up of water through a conduit or channel in the direction opposite to normal flow.

Backflow Preventer—a device for a potable water supply pipe to prevent the backflow of water of questionable quality into the potable water supply system.

Back Siphonage—a form of backflow caused by negative or subatmospheric pressure within a water system.

Boil Notice—an official order authorized by the state health officer to the owner/users of a specific water supply, directing that water from that supply be boiled according to directions, or otherwise disinfected prior to human consumption.

By-Pass—any system of piping or other arrangement whereby the water may be diverted around any part or portion of a water supply or treatment facility.

Category—a group of parameters for which certification is offered.

Certification Fee—the annual charge assessed laboratories requesting certification from the Department of Health and Hospitals to provide the needed chemical (organic, inorganic and radiological) analytical support for the public water systems.

Certified chemical laboratory/drinking water—a laboratory meeting the requirements contained within the *Laboratory Certification Manual* and which has been officially certified by the state health officer to analyze and report compliance monitoring sample results for one or more physical, chemical, or radiological parameters associated with drinking water. Certification may be obtained on a parameter by parameter basis only.

Committee of Certification—the committee, created by R.S. 40:1141 through 1151, responsible for certification of waterworks operators and sewerage works operators.

Community Water Supply—a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Contaminant—any physical, chemical, biological, or radiological substance or matter in water.

Cross Connection—

- a. a physical connection through which a supply of potable water could be contaminated or polluted; or
- b. a connection between a supervised potable water supply and an unsupervised supply of unknown potability.

Drain—any pipe which carries waste water or water-borne waste in a building drainage system.

Drainage System—(drainage piping) includes all the piping within public or private premises, which conveys sewage, rain water, or other liquid wastes to a point of disposal, but does not include the mains of a public sewer system or a private or public sewage treatment plant.

Ground Water—subsurface water occupying the saturation zone from which wells and springs are fed. In a strict sense the term applies only to water below the water table.

Interconnection—a physical connection between two water supply systems.

Laboratory Certification Manual—the reference book which contains the Department of Health and Hospitals' regulations governing laboratory certification and standards of performance for laboratories conducting drinking water analyses for public water supplies in the state of Louisiana.

Laboratory Certification Program—a program carried out by the Department of Health and Hospitals, Office of Public Health and Office of Licensing and Certification to approve commercially and publicly owned laboratories to perform compliance monitoring of public water supplies in accordance with the National Primary Drinking Water Regulations and Part XII of the State Sanitary Code. The cost of the program will be recouped from the laboratories requesting certification.

Laboratory Requesting Certification—an uncertified laboratory which has submitted an acceptable application and appropriate fee(s) for the category in which it desires certification.

Louisiana Water Well Rules, Regulations, and Standards—the November 1985 Edition, promulgated by the Louisiana Office of Public Works, Department of Transportation and Development, under provisions of state Act 535 of 1972 (R.S. 38:3091 *et seq.*).

Maximum Contaminant Level (MCL)—the highest permissible concentration of a substance allowed in drinking water as established by the U.S. Environmental Protection Agency.

National Primary Drinking Water Regulations—

- a. drinking water regulations promulgated by the U.S. Environmental Protection Agency pursuant to applicable provisions of title XIV of the Public Health Service Act, commonly known as the "Safe Drinking Water Act," 42 U.S.C.A. §300f, *et seq.*, and as published in the July 1, 2000 edition of the *Code of Federal Regulations*, Title 40, Part 141 (40 CFR 141), less and except:
 - i. Subpart H—Filtration and Disinfection (40 CFR 141.70 through 40 CFR 141.75);
 - ii. Subpart M—Information Collection Requirements (ICR) for Public Water Systems (40 CFR 141.140 through 40 CFR 141.144);
 - iii. Subpart P—Enhanced Filtration and Disinfection (40 CFR 141.170 through 141.175); and
 - iv. Subpart Q—Public Notification of Drinking Water Violations (40 CFR 141.201 through 141.210, including Appendices A, B, and C to Subpart Q of Part 141);

- b. 40 CFR 141 drinking water regulation amendments promulgated by the U.S. Environmental Protection Agency pursuant to applicable provisions of title XIV of the Public Health Service Act, commonly known as the "Safe Drinking Water Act," 42 U.S.C.A. §300f, *et seq.*, and as published in the *Federal Register* dated January 16, 2001 (Volume 66, Number 10, pages 3769 through 3780), less and except:
 - i. any amendments contained therein applicable to 40 CFR 141.70 through 141.75; and
 - ii. any amendments contained therein applicable to 40 CFR 141.170 through 141.175;
- c. 40 CFR 141 drinking water regulation amendments promulgated by the U.S. Environmental Protection Agency pursuant to applicable provisions of title XIV of the Public Health Service Act, commonly known as the "Safe Drinking Water Act," 42 U.S.C.A. §300f, *et seq.*, and as published in the *Federal Register* dated February 12, 2001 (Volume 66, Number 29, page 9903); and
- d. 40 CFR 141 drinking water regulation amendments promulgated by the U.S. Environmental Protection Agency pursuant to applicable provisions of title XIV of the Public Health Service Act, commonly known as the "Safe Drinking Water Act," 42 U.S.C.A. §300f, *et seq.*, and as published in the *Federal Register* dated June 29, 2004 (Volume 69, Number 124, pages 38855 and 38856), less and except:
 - i. any amendments contained therein applicable to 40 CFR 141.25 through 141.26;
 - ii. any amendments contained therein applicable to 40 CFR 141.70 through 141.75;
 - iii. any amendments contained therein applicable to 40 CFR 141.170;
 - iv. any amendments contained therein applicable to 40 CFR Part 141, Subpart Q, Appendices A and B; and
 - v. any amendments contained therein applicable to 40 CFR 141.502 through 570.
- e. When "Subpart H" or "Subpart P" is used within the actual text of the drinking water regulations cited in Subparagraphs a, b, c, or d of this Paragraph (definition), "LAC 51:XII.Chapter 11" shall be substituted therein.

National Secondary Drinking Water Regulations—regulations (40 CFR Part 143) promulgated by the U.S. Environmental Protection Agency pursuant to applicable provisions of P.L. 99-339, the "Safe Drinking Water Act," and as published in the *Federal Register* of July 19, 1979, pages 42,195 through 42,202 and April 2, 1986, page 11,412.

Noncommunity Water Supply—a public water system that does not meet the criteria for a community water supply and serves at least 25 individuals (combination of residents and transients) at least 60 days out of each year. A non-community water supply is either a "transient non-community water supply" or a "non-transient non-community water supply".

Nontransient Noncommunity Water Supply—a public water system that is not a community system and regularly serves at least 25 of the same persons (non-residents) over six months per year.

Operator—the individual, as determined by the Committee of Certification, in attendance, onsite of a water supply system and whose performance, judgment and direction affects either the safety, sanitary quality or quantity of water treated or delivered.

Permit—a written document issued by the state health officer through the Office of Public Health which authorizes construction and operation of a new water supply or a modification of any existing supply.

Potable Water—water having bacteriological, physical, radiological, and chemical qualities that make it safe and suitable for human drinking, cooking and washing uses.

Potable Water Supply—a source of potable water, and the appurtenances that make it available for use.

Private Water Supply—a potable water supply that does not meet the criteria for a public water supply.

Public Water Supply—"public water system".

Public Water System—a system for the provision to the public of water for potable water purposes through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. (A public water system is either a "community water supply" or a "non-community water supply"). Such term includes:

- a. any collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system; and
- b. any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

Reservoir—a natural or artificial lake or impoundment for storage of water (either raw or treated) used or proposed to be used for potable purposes.

Sanitary Well Seal—a suitable threaded, flanged, or welded water-tight cap or compression seal installed at the top of the well casing so as to prevent the entrance of contaminated water or other objectionable material into the well.

Service Connection—the pipe from the water main and/or water meter, water supply system or other source of water supply to the building or structure served.

Source of Water Supply—any well, spring, cistern, infiltration gallery, stream, reservoir, pond, or lake from which, by any means, water is taken either temporarily or continuously for potable use.

Substantial Renovation—instances when new water treatment units are added to existing water treatment plants or non-serviceable portions of existing water treatment units are reconstructed. In addition, alterations or changes which increase plant capacity are included in this term.

Surface Water—derived from water sources on the surface of the earth such as streams, ponds, lakes, or reservoirs.

Ten State Standards—the *Recommended Standards for Water Works* (2003 Edition)* promulgated by the Great Lakes and Upper Mississippi Board of State Sanitary Engineers and any modifications and additions to these Standards which the state health officer may establish in this Part. [*NOTE: Published by: Health Education Services, P.O. Box 7126, Albany, New York 12224 (Internet URL address: "<http://www.hes.org/>")]

Transient Non-Community Water Supply—a non-community water supply that does not regularly serve at least 25 of the same persons over six months per year.

Treatment Technique Requirement—a treatment process/standard which has been established in lieu of a maximum contaminant level when, in the state health officer's judgement, it is not economically or technologically feasible to ascertain the level of a contaminant in water intended for potable purposes.

Vacuum Breaker—a device for relieving a vacuum or partial vacuum formed in a pipeline, thereby preventing back siphonage.

Water Well (Well)—an artificial excavation that derives water from the interstices of the rocks or soil which it penetrates.

AUTHORITY NOTE: The first source of authority for promulgation of the Sanitary Code is in R.S. 36:258 (B), with more particular provisions found in Chapters 1 and 4 of Title 40 of the Louisiana Revised Statutes. This Part is promulgated in accordance with R.S. 36:254 (B)(7), R.S. 40:4 (A)(8), R.S. 40:5 (2)(3)(5)(6)(17)(20), and R.S. 40:1148.

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1318 (June 2002), amended LR 28:2513 (December 2002), amended LR 30:1194 (June 2004) , amended LR 30:2326 (October 2004).

§103. General Requirements for a Potable Water Supply
[formerly paragraph 12:002-1]

A. Every potable water supply which is hereafter constructed, or reconstructed, or every existing water supply which the state health officer determines is unsafe, shall be made to comply with the requirements of the Code.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1320 (June 2002).

§105. Permit Requirements for a Potable Water Supply
[formerly paragraph 12:002-2]

A. No public water supply shall be hereafter constructed, operated or modified to the extent that the capacity, hydraulic conditions, functioning of treatment processes, or the quality of finished water is affected, without, and except in accordance with, a permit from the state health officer.

B. No public water supply shall be constructed or modified to the extent mentioned above except in accordance with the plans and specifications for the installation which have been approved, in advance, as a part of a permit issued by the state health officer prior to the start of construction or modification.

C. Detailed plans and specifications for the installation for which a permit is requested shall be submitted by the person having responsible charge of a municipally owned public water supply or by the owner of a privately owned public water supply.

D. The review and approval of plans and specifications submitted for issuance of a permit, will be made in accordance with the "Ten-State Standards" and the *Louisiana Water Well Rules, Regulations, and Standards*, plus any additional requirements of the state health officer as set forth in this Part.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6)(7)(17)(19).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1320 (June 2002).

§107. Provision for Grandfather Systems
[formerly paragraph 12-002-3]

A. Permits issued, and approvals of plans and specifications granted prior to the effective date of this Code shall remain in effect as they pertain to the design of the supply unless the revision of such is determined necessary by the state health officer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6)(7)(17)(19).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1320 (June 2002).

§109. Requirements for Sources of a Potable Water Supply
[formerly paragraph 12-002-4]

A. Water supplied for potable purposes shall be:

1. obtained from a source free from pollution; or
2. obtained from a source adequately protected by natural agencies from the effects of pollution; or
3. adequately protected by artificial treatment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1320 (June 2002).

Chapter 3. Water Quality Standards

§301. Mandatory Water Quality Standards for Public Water Systems [formerly paragraph 12:002-5]

A. Each public water supply shall comply with the maximum contaminant levels, maximum residual disinfectant levels, and treatment technique requirements as prescribed and as applicable in the National Primary Drinking Water Regulations, the Louisiana Total Coliform Rule (Chapter 9 of this Part), the Louisiana Surface Water Treatment Rule (Chapter 11 of this Part), the Louisiana Stage I Disinfectants and Disinfection Byproducts Rule (Chapter 13 of this Part), and the Louisiana Lead and Copper Rule (Chapter 17 of this Part). The state health officer, upon determining that a risk to human health may exist, reserves the right to limit exposure to any other contaminant. Further, each public water supply should comply with the National Secondary Drinking Water Regulations. Treatment to remove questionable characteristics shall be approved by the state health officer.

B. Each public water supply shall comply with the monitoring and analytical requirements specified in the National Primary Drinking Water Regulations, the Louisiana Total Coliform Rule (Chapter 9 of this Part), the Louisiana Surface Water Treatment Rule (Chapter 11 of this Part), the Louisiana Stage I Disinfectants and Disinfection Byproducts Rule (Chapter 13 of this Part), and the Louisiana Lead and Copper Rule (Chapter 17 of this Part), as applicable.

C. A laboratory certification program has been established to approve commercially and publicly owned laboratories to perform chemistry compliance monitoring for public water supplies. Laboratories seeking certification in any chemistry category for which certification is offered must adhere to the rules and regulations governing laboratory certifications as contained in the Department of Health and Hospitals' *Laboratory Certification Manual* dated September 1989. An annual certification fee will be assessed laboratories seeking certification from the Department of Health and Hospitals.

AUTHORITY NOTE: Promulgated in accordance with R.S. 36:254 (B)(7), R.S. 40:4 (A)(8) and R.S. 40:5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1321 (June 2002), amended LR 30:2327 (October 2004).

§303. Variances and/or Exemptions [formerly paragraph 12:002-6]

A. Upon determination that a public water supply is not in compliance with the maximum contaminant levels or treatment technique requirements of the National Primary Drinking Water Regulations, variances and/or exemptions may be issued by the state health officer in accord with Sections 1415 and 1416 of the Safe Drinking Water Act and subpart K (Variances for Small System) of 40 CFR part 142.

B. The owner of the public water supply which receives a variance and/or exemption shall fully and timely comply with all the terms and conditions of any compliance and/or implementation schedule specified by the state health officer in conjunction with the issuance of same.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1321 (June 2002).

§305. Reserved.
[formerly paragraph 12:002-7]

§307. Responsibility of Owner
[formerly paragraph 12:003-1]

A. It shall be the duty of the Mayor, or the person having responsible charge of a municipally owned water supply, or the legal or natural person owning a public water supply, to take all measures and precautions which are necessary to secure and ensure compliance with this Part of the Code, and such persons shall be held primarily responsible for the execution and compliance with regulations of this Code. A printed copy of this Part of the Code shall be kept permanently posted in the office used by the authority owning or having charge of a public water supply.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1321 (June 2002).

§309. Plant Supervision and Control
[formerly paragraph 12:003-2]

A. All public water supplies shall be under the supervision and control of a duly certified operator as per requirements of the State Operator Certification Act, Act 538 of 1972, as amended (R.S. 40:1141-1151).

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8), R.S. 40:5 (5)(6), and R.S. 40:1148.
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1321 (June 2002).

§311. Records
[formerly paragraph 12:003-2]

A. Complete daily records of the operation of water treatment plants, including reports of laboratory control tests, shall be kept for a period of three years on forms approved by the state health officer. Copies of these records shall be provided to the office designated by the state health officer within 10 days following the end of each calendar month.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(5)(6).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1321 (June 2002), amended LR 30:1195 (June 2004).

§313. Public Notification
[formerly paragraph 12:003-4]

A. If a public water system fails to comply with an applicable maximum contaminant level, treatment technique requirement, or analytical requirement as prescribed by this Code or fails to comply with the requirements of any schedule prescribed pursuant to a variance or exemption, or fails to perform any monitoring required by this Code, the supplier of water shall notify persons served by the system of the failure in a manner prescribed by the National Primary Drinking Water Regulations, the Louisiana Total Coliform Rule (Chapter 9 of this Part, formerly Appendix C), or the Louisiana Surface Water Treatment Rule (Chapter 11 of this Part, formerly Appendix D), as applicable.

B. In addition, if a public water system fails to report required analytical data to the appropriate office designated by the state health officer within the applicable time limit(s) stipulated by the National Primary Drinking Water Regulations or the Louisiana Surface Water Treatment Rule (Chapter 11 of this Part, formerly Appendix D) and such data (*e.g.*, turbidity measurements, corrosion control chemical concentrations, etc.) is required to determine a maximum contaminant level or treatment technique requirement prescribed by this Code, the public water system shall be assessed a monitoring violation and must give appropriate public notification.

C. The water supply, within 10 days subsequent to the completion of each public notification shall submit to the state health officer a representative copy of each type of notice distributed, published, posted and/or made available to the persons served by the supply and/or to the news media.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1321 (June 2002).

§315. Security
[formerly paragraph 12:003-5]

A. All public water supply wells, treatment units, tanks, etc., shall be located inside a fenced area that is capable of being locked; said areas shall be locked when unattended. The fence shall be resistant to climbing and at least 6 feet high.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1322 (June 2002).

§317. Reserved.
[formerly paragraph 12:004-1]

§319. Reserved.
[formerly paragraph 12:004-2]

§321. Reporting Changes or NPDWR Violations in Public Water Supplies
[formerly paragraph 12:005]

A. No person owning, or having by law the management control of any public water supply, shall take or cause to be taken for use for potable purposes, water from any auxiliary source other than a source or sources of water approved by the state health officer, or shall make any change whatsoever which may affect the sanitary quality of such water supply, without first having notified the state health officer.

B. Also, any violation of the National Primary Drinking Water Regulations shall be reported to the state health officer within 48 hours after learning of any violation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1322 (June 2002).

§323. Filtration

A. All potable water derived from surface waters shall be filtered before distribution. Pressure filters shall not be used as the primary turbidity removal mechanism in the filtration of surface waters. On a case-by-case basis, DHH may allow pressure filters to be used as the primary turbidity removal mechanism in systems identified as being a groundwater under the direct influence of surface water (GWUDISW) system.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1322 (June 2002), amended LR 28:2514 (December 2002).

§325. Treatment Chemicals
[formerly paragraph 12:007]

A. Chemicals used in the treatment of water to be used for potable purposes shall either meet the standards of the American Water Works Association or meet the guidelines for potable water applications established by the U.S. Environmental Protection Agency.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1322 (June 2002).

§327. Ground Water Supplies
[formerly paragraph 12:008-1]

A. All potable ground water supplies shall comply with the following requirements:

1. [Formerly paragraph 12:008-2 Exclusion of Surface Water From Site] The ground surface within a safe horizontal distance of the source in all directions shall not be subject to flooding (as defined in footnote 4 of §327.A.2 below) and shall be so graded and drained as to facilitate the rapid removal of surface water. This horizontal distance shall in no case be less than 50 feet for potable water supplies.

2. [Formerly paragraph 12:008-3 Distances to Sources of Contamination] Every potable water well, and the immediate appurtenances thereto that comprise the well, shall be located at a safe distance from all possible sources of contamination, including but not limited to, privies, cesspools, septic tanks, subsurface tile systems, sewers, drains, barnyards and pits below the ground surface. The horizontal distance from any such possible source of pollution shall be as great as possible, but in no case less than the following minimum distances, except as otherwise approved by the state health officer:

Source	Distance in Feet
Septic tanks	50
Storm or sanitary sewer	50 ¹
Cesspools, outdoor privies, oxidation ponds, subsurface absorption fields, pits, mechanical sewage treatment plants, etc.	100 ²
Another water-well	25 ³
Sanitary landfills, feed lots, manure piles, solid waste dumps and similar installations	100
Drainage canal, ditch or stream	50 ⁴

¹ This distance may be reduced to 30 feet if the sewer is of cast iron with leaded joints or Schedule 40 plastic pipe with water-tight joints.

² For a private water well this distance may be reduced to 50 feet.

³ This minimum distance requirement does not take into consideration the effects of interference from pumping nearby wells in the same aquifer.

⁴ Horizontally measured from the water's edge to the well at the highest water level which may have occurred in a 10-year period.

3. [Formerly paragraph 12:008-4 Leakage From Toilets And Sewers] No toilet, sewer, soil pipe or drain shall be located above or where leakage therefrom can reach any water storage basin, reservoir or source of water supply.

4. [Formerly paragraph 12:008-5 Pits Near Water Supply] There shall be no unauthorized pits or unfilled spaces below level of ground surface, any part of which is within 50 feet of such water supply, except properly constructed well, pump, or valve pits as covered under §329.A.4 of this Part.

5. [Formerly paragraph 12:008-6 Satisfactory Earth Formation Above The Water Bearing Stratum] The earth formations above the water-bearing stratum shall be of such character and depth as to exclude contamination of the source of supply by seepage from the surface of the ground.

6. [Formerly paragraph 12:008-7 Minimum Depth of Casings and Curbings] All well and spring basin casings or curbings shall extend a safe distance below the ground surface. The minimum depth of casings or curbings shall not be less than 50 feet in the case of public water supplies and not less than 10 feet in the case of private water supplies.

7. [Formerly paragraph 12:008-8 Height of Casings and Curbings] In wells with pipe casings, the casings shall project at least 12 inches above ground level or the top of the cover or floor, and the cover or floor shall slope away from the well casing or suction pipe in all directions. Dug well linings shall extend at least 12 inches above the ground surface and cover installed thereon. The cover shall be watertight, and its edges shall overlap and extend downward at least 2 inches over the walls or curbings of such wells. In flood-prone areas the top of the casing shall be at least 2 feet above the highest flood level which may have occurred in a 10-year period, but in no case less than 2 feet above the ground surface.

8. [Formerly paragraph 12:008-9 Grouting] The annular space between the well casing and the bore hole shall be sealed with cement-bentonite slurry or neat cement. Community public supply wells shall be cemented to their full depth from the top of the producing aquifer to the ground surface; noncommunity public supply wells shall be cemented from a minimum depth of 50 feet to the ground surface; and private supply wells shall be cemented from a minimum depth of 10 feet to the ground surface.

9. [Formerly paragraph 12:008-10 Cover or Floors] Every dug well, spring, or other structure used as a source of potable water, or for the storage of potable water, shall be provided with a watertight cover. Covers and every pump room floor shall be constructed of concrete or similar impervious material, and shall be elevated above the adjacent ground level and sloped to facilitate the rapid removal of water so as to provide drainage from the cover or floor and prevent contamination of the water supply. Such cover or floor shall be constructed so that there are no copings, parapets, or other features which may prevent proper drainage, or by which water can be held on the cover. Concrete floors or cover slabs shall be of such thickness and so reinforced as to carry the load which may be imposed upon it, but in no case less than 4 inches thick.

10. [Formerly paragraph 12:008-11 Potable Water Well Seals and Covers] Every potable water well shall be provided with a watertight sanitary well seal at the top of the casing or pipe sleeve. For wells with solid pedestal foundations, the well casing shall project at least 1 inch above the level of the foundation, and a seal between the well casing and the opening in the pump base plate shall be used to effectively seal the base plate to the well casing.

11. [Formerly paragraph 12:008-12 Potable Water Well Casing Vents] All potable water well casings shall be vented to atmosphere as provided in §327.A.12 below, with the exception that no vent will be required when single-pipe jet pumps are used.

12. [Formerly paragraph 12:008-13 Potable Water Well Vents] All potable water well vents shall be so constructed and installed as to prevent the entrance of contamination. All vent openings shall be piped water tight to a point not less than 24 inches above the highest flood level which may have occurred in a 10-year period, but in

no case less than 24 inches above the ground surface. Such vent openings and extensions thereof shall be not less than one-half inch in diameter, with extension pipe firmly attached thereto. The openings of the vent pipes shall face downward and shall be screened to prevent the entrance of foreign matter.

13. [Formerly paragraph 12:008-14 Manholes] Manholes may be provided on dug wells, reservoirs, tanks, and other similar water supply structures. Every such manhole shall be fitted with a watertight collar or frame having edges which project at least two inches above the level of the surrounding surface, and shall be provided with a solid watertight cover having edges which overlap and project downward at least 2 inches around the outside of the frame. The cover shall be kept locked at all times, except when it is necessary to open the manhole.

14. [Formerly paragraph 12:008-15 Well Construction Standards] All wells constructed to serve a potable water supply shall be constructed in accordance with *Louisiana Water Well Rules, Regulations, and Standards*. Drillers of wells to serve a potable water supply will comply with the requirements for licensing of water well drillers under state Act No. 715 of 1980 (R.S. 38:2226, 38:3098-3098.8) which is administered by the Louisiana Office of Public Works.

15. [Formerly paragraph 12:008-16 Sampling Tap] All potable water supply wells shall be provided with a readily accessible faucet or tap on the well discharge line at the well for the collection of water samples. The faucet or tap shall be of the smooth nozzle type, shall be upstream of the well discharge line check valve and shall terminate in a downward direction.

16. [Formerly paragraph 12:008-17 Disinfection of Wells] All new wells or existing wells on which repair work has been done shall be disinfected before being put into use as prescribed in §353.A of this Part.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(6)(8) and R.S. 40:5 (3)(5)(6)(9)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1322 (June 2002).

§329. Construction and Installation of Pumps [formerly paragraph 12:009-1]

A. All water pumps shall be so constructed and installed as to prevent contamination of the water supply.

1. [Formerly paragraph 12:009-2 Hand Pump Head and Base] Every hand-operated pump shall have the pump head closed by a stuffing box or other suitable device to exclude contamination from the water chamber. The pump base shall be of solid one-piece recessed type of sufficient diameter and depth to admit the well casing as hereinafter provided. The top of the casing or sleeve of every well, equipped with such a pump, shall project into the base of the pump at least 1 inch above the bottom thereof and shall extend 12 inches above the level of the platform, well cover, or pump room floor on which the pump rests. The pump shall be fastened to the casing or sleeve. The pumps shall be of the self-priming type.

2. [Formerly paragraph 12:009-3 Power Pump] Where pumps or pump motors are placed directly over the well, the pump or motor shall be supported on a base provided therefor. The well casing shall not be used to support pump or motor. This requirement shall not apply to submersible pumps/motors and single-pipe jet pumps/motors. The pump or motor housing shall have a solid watertight metal base without openings to form a cover for the well, recessed to admit the well casing or pump suction. The well casing or pump suction shall project into the base at least 1 inch above the bottom thereof, and at least 1 inch above the level of the foundation on which the pump rests. The well casing shall project at least 12 inches above ground level or the top of the floor.

3. [Formerly paragraph 12:009-4] Where power pumps are not placed directly over the well, the well casing shall extend at least 12 inches above the floor of the pump house. In flood-prone areas the top of the casing shall extend at least 2 feet above the highest flood level which may have occurred in a 10-year period, but in

no case less than 2 feet above the ground surface. The annular space between the well casing and the suction pipe shall be closed by a sanitary well seal to prevent the entrance of contamination.

4. [Formerly paragraph 12:009-5 Well, Pump, Valve, and Pipe Pits] No well head, well casing, pump, or pumping machinery shall be located in any pit, room, or space extending below ground level, or in any room or space above the ground which is walled in or otherwise enclosed so that it does not have drainage by gravity to the surface of the ground, except in accordance with design approved by the state health officer, provided, that this shall not apply to a dug well properly constructed as herein prescribed.

5. [Formerly paragraph 12:009-6 Pump House] All pump houses shall be properly constructed to prevent flooding, and shall be provided with floor drainage.

6. [Formerly paragraph 12:009-7 Lubrication of Pump Bearings] Well pump bearings shall be lubricated with oil of a safe, sanitary quality or potable water.

7. [Formerly paragraph 12:009-8 Priming of Power Pumps] Power pumps requiring priming shall be primed only with potable water.

8. [Formerly paragraph 12:009-9 Priming of Hand Pumps] Hand-operated pumps shall have cylinders submerged so that priming shall not be necessary. No pail and rope, bailer, or chain-bucket systems shall be used.

9. [Formerly paragraph 12:009-10 Airlift Systems] The air compressor and appurtenances for any airlift system or mechanical aerating apparatus used in connection with a potable ground water supply, shall be installed and operated in accordance with plans and specifications that have been approved as part of a permit issued by the state health officer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1323 (June 2002).

§331. Well Abandonment
[formerly paragraph 12:010]

A. Abandoned water wells and well holes shall be plugged in accordance with the *Louisiana Water Well Rules, Regulations, and Standards*.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (3)(5)(6)(9)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1324 (June 2002).

§333. Reservoir Sanitation
[formerly paragraph 12:011-1]

A. The state health officer may designate any water body, or a part of any water body, as a reservoir, where, in its use as a water source for public water supply, the control of other uses of the water body, or designated part of the water body, and its watershed, is necessary to protect public health.

1. [Formerly paragraph 12:011-2] No cesspool, privy or other place for the deposit or storage of human excrement shall be located within 50 feet of the high water mark of any reservoir, stream, brook, or other watercourse flowing into any reservoir, and no place of this character shall be located within 250 feet of the high water mark of any reservoir or watercourse as above mentioned, unless such receptacle is so constructed that no portion of the contents can escape or be washed into the reservoir or watercourse.

2. [Formerly paragraph 12:011-3] No stable, pigpen, chicken house or other structure where the excrement of animals or fowls is allowed to accumulate, shall be located within 50 feet of the high water mark of any reservoir or watercourse as above mentioned, and no structure of this character shall be located within 250 feet of the high water mark of such waters unless provision is made for preventing manure or other polluting materials from flowing or being washed into such waters.

3. [Formerly paragraph 12:011-4] Boating, fishing, water skiing and swimming on any reservoir or watercourse as above mentioned shall be prohibited, or otherwise restricted by the state health officer, when it has been determined that the public served by the public water supply using the reservoir as a water source is exposed to a health hazard, and that such prohibitions or restrictions are therefore necessary. In any case, the aforementioned activities shall be prohibited within 100 feet of the water intake point of the public water supply.

4. [Formerly paragraph 12:011-5 Industrial Wastes] No industrial waste which may cause objectionable changes in the quality of water used as a source of a public water supply shall be discharged into any lake, pond, reservoir, stream, underground water stratum, or into any place from which the waste may flow, or be carried into a source of public water supply. (Note: This was formerly numbered 12:024).

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(6)(8)(11) and R.S. 40:5 (3)(5)(6)(9)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1324 (June 2002).

§335. Distribution
[formerly paragraph 12:012-1]

A. All potable water distribution systems shall be designed, constructed, and maintained so as to prevent leakage of water due to defective materials, improper jointing, corrosion, settling, impacts, freezing, or other causes. Valves and blow-offs shall be provided so that necessary repairs can be made with a minimum interruption of service.

B. [Formerly paragraph 12:012-2] All installations of, or repairs to, public water systems or residential and nonresidential plumbing facilities that provide drinking water and which are connected to a public water supply shall be made using lead-free piping, solder and flux. The only exception to this general requirement is that leaded joints necessary for the repair of cast iron pipes may be allowed. For these purposes, lead free, when used with respect to solder and flux, refers to solder and flux containing not more than 0.2 per cent lead. Additionally, when used with respect to pipes and fittings, lead free refers to pipes and fittings containing not more than 8.0 percent lead.

C. [Formerly paragraph 12:012-3] Where pumps are used to draw water from a water supply distribution system or are placed in a system to increase the line pressure, provision must be made to limit the pressure on the suction side of the pump to not less than 15 pounds per square inch gauge. Where the use of automatic pressure cut-offs is not possible, such pumps must draw water from a tank, supplied with water from a water distribution system through an air gap as per Part XIV of this Code.

D. [Formerly paragraph 12:012-4] All public water supplies shall be operated and maintained to provide a minimum positive pressure of 15 pounds per square inch gauge at all service connections at all times.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1325 (June 2002).

§337. Storage
[formerly paragraph 12:013-1]

A. All cisterns and storage tanks shall be of watertight construction and made of concrete, steel or other materials approved for this purpose by the state health officer. When located wholly or partly below ground, such storage basins shall be of corrosion resistant materials.

B. [Formerly paragraph 12:013-2] Cisterns used for potable water shall be provided with a rain water cut-off, suitable to deflect the first washings of the roof and prevent contamination of the water. Cisterns shall be tightly covered, and screened with 18-mesh wire screen.

C. [Formerly paragraph 12:013-3 Vent Openings] Any vent, overflow, or water level control gauge provided on tanks or other structures containing water for any potable water supply shall be constructed so as to prevent the entrance of birds, insects, dust or other contaminating material. Openings or vents shall face downward and shall be not less than 2 feet above the floor of a pump room, the roof or cover of a tank, the ground surface or the surface of other water supply structures.

D. [Formerly paragraph 12:013-4 Coatings] Paints or other materials used in the coating of the interior of cisterns, tanks or other containers in which potable water is processed or stored shall be nontoxic to humans and shall be of such composition that the palatability of the water stored or processed shall not be adversely affected. The "Standard for Painting Steel Water Storage Tanks" (AWWA D102-78) published by the American Water Works Association shall be complied with. Determination of acceptability of coatings for potable water applications by the U.S. Environmental Protection Agency may be considered evidence of compliance with this Subsection. (The AWWA Standard can be obtained from the American Water Works Association, 6666 W. Quincy Ave., Denver, Colo. 80235.)

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1325 (June 2002).

§339. Protection of Suction Pipes
[formerly paragraph 12:014-1]

A. All subsurface suction piping, such as that leading from detached wells or reservoirs, shall be protected against the entrance of contamination.

B. [Formerly paragraph 12:014-2] Valve boxes shall be provided for valves on buried suction lines. Every such valve box shall project at least 6 inches above the floor if in a room or building, and at least 12 inches above the ground if not enclosed in a building. The top of the box shall be provided with a cover with overlapping edges.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (3)(5)(6)(9)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1325 (June 2002).

§341. Separation of Water Mains and Sewer Mains
[formerly paragraph 12:015]

A. Sewer and water mains shall be laid in separate trenches not less than 6 feet apart horizontally, when installed in parallel. Crossing water and sewer mains shall have a minimum vertical separation of 18 inches. In cases where it is not possible to maintain a 6 foot horizontal separation, the state health officer may allow a waiver of this requirement on a case by case basis if supported by data from the design engineer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(6)(8) and R.S. 40:5 (5)(6)(9).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1325 (June 2002).

§343. Cross Connections
[formerly paragraph 12:016-1]

A. There shall be no physical connection between a public water supply and any other water supply which is not of equal sanitary quality and under an equal degree of official supervision; and there shall be no connection or arrangement by which unsafe water may enter a public water supply system.

B. [Formerly paragraph 12:016-2] Water from any potable water supply complying with these requirements may be supplied to any other system containing water of questionable quality only by means of an independent line discharging not less than a distance equal to two times the pipe diameter or two inches, whichever is greater, above the overflow level of storage units open to atmospheric pressure or by other methods approved by the state health officer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(7)(8) and R.S. 40:5 (3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1325 (June 2002).

§345. Connection With Unsafe Water Sources Forbidden
[formerly paragraph 12:017]

A. There shall be no cross-connection, auxiliary intake, bypass, inter-connection or other arrangement, including overhead leakage, whereby water from a source that does not comply with these regulations may be discharged or drawn into any potable water supply which does comply with these requirements. The use of valves, including check or back pressure valves, is not considered protection against return flow, or back-siphonage, or for the prevention of flow of water from an unapproved source into an approved system.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(7)(8) and R.S. 40:5 (3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1326 (June 2002).

§347. Connections to Public Water Supply
[formerly paragraph 12:018]

A. All inhabited premises and buildings located within 300 feet of an approved public water supply shall be connected with such supply, provided that the property owner is legally entitled to make such a connection. The state health officer may grant permission to use water from some other source.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1326 (June 2002).

§349. Protection During Construction
[formerly paragraph 12:019]

A. All potable water supplies which are hereafter constructed, reconstructed, or extensively altered shall be protected to prevent contamination of the source during construction.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1326 (June 2002).

§351. Disinfection of Potable Water Supply Systems
[formerly paragraph 12:020-1]

A. Pipes, pumps, and other parts of water supply systems shall be disinfected when deemed necessary by the state health officer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6),.

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1326 (June 2002).

§353. Disinfection of New Water Supplies
[formerly paragraph 12:020-2]

A. Pumps, pipes, wells, tanks and other parts of new systems shall be thoroughly disinfected by the use of chlorine or chlorine compounds before being placed in use. The rate of application of chlorine shall be in such proportion to the rate of water entering the pipe or other appurtenances that the chlorine dose applied to the water shall be at least 50 mg/l. Chlorinated water shall be retained long enough to destroy non-spore-forming bacteria. The period shall be at least three hours and preferably longer, as may be directed. After the chlorine treated water has been retained for the required time, the chlorine residual at pipe extremities and at other representative points shall be at least 5 mg/l. If the residual is less than 5 mg/l, the disinfection procedure shall be repeated until a 5 mg/l residual is obtained, as required above.

B. [Formerly paragraph 12:020-3] Large storage tanks may be disinfected by washing down the interior of the tank with a chlorine solution having at least 200 mg/l available chlorine and then washing the interior of the tank with potable water and wasting the wash water.

C. [Formerly paragraph 12:020-4] Water from new systems, or from new parts of existing systems, shall not be furnished for consumer's use until tests performed by a laboratory which is certified by the state health officer have shown the new system or new part of the system to be free from contamination by coliform bacteria (following EPA approved procedures prescribed in *Standard Methods for the Examination of Water and Wastewater*, Nineteenth Edition). Samples shall not be collected from the new facilities until such new facilities have been disinfected as prescribed in §353(A) above, and the chlorinated water thoroughly flushed from the system.

AUTHORITY NOTE: Promulgated in accordance with R.S. 36:254 (B)(7), R.S. 40:4 (A)(8), and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1326 (June 2002).

§355. Mandatory Disinfection

A. Routine, continuous disinfection is required of all public water systems other than those under §361.A of this Part. Where continuous chlorination methods are used, the following minimum concentration of free chlorine residual shall be provided leaving the plant:

pH Value	Free Chlorine Residual
up to 7.0	0.4 mg/l
7.0 to 8.0	0.6 mg/l
8.0 to 9.0	0.8 mg/l
over 9.0	1.0 mg/l

1. This table does not apply to systems using chloramines.

B. All new groundwater systems installed after the effective date of these regulations shall provide at least 30 minutes contact time prior to the first customer. It is recommended that all existing systems provide the 30 minutes

contact time prior to the first customer. Additions to or extensions of existing systems are exempt from the 30 minutes contact time.

C. Public water systems which use surface water or ground water under the direct influence of surface water shall meet the requirements of applicable sections of the Louisiana Interim Enhanced Surface Water Treatment Rule (LAC 51:XII.Chapter 11) as it pertains to CT and *Giardia*, *Cryptosporidium*, and virus removal/inactivation/disinfection requirements.

D. The effective date for all public water systems serving a population of greater than 500 shall be July 1, 1995.

E. The effective date of mandatory disinfection for all public water systems serving a population of 500 or less shall be July 1, 1996.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1326 (June 2002), amended LR 28:2514 (December 2002).

§357. Minimum Disinfection Residuals
[formerly paragraph 12:021-2]

A. A minimum disinfectant residual of detectable amount of total chlorine shall be maintained at all points throughout the distribution system at all times for chlorination methods other than chloramines. For very small water systems a residual of 0.2 mg/l free chlorine is generally required to maintain said systems.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1327 (June 2002).

§359. Other Methods of Disinfection
[formerly paragraph 12:021-3]

A. Where chlorination is not used as the primary disinfectant, chlorine or chloramines shall be used as the secondary disinfectant to provide the residuals required in §357.A of this Part. Other methods shall be evaluated on a case-by-case basis by the state health officer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1327 (June 2002).

361. Variances to Mandatory Disinfection
[formerly paragraph 12:021-4]

A. A variance may be granted by the state health officer to a public water system, provided the system meets one of the following criteria.

1. If the public water system has not had a bacteriological maximum contaminant level (MCL) violation for the past three years;

2. If the public water system, both existing and future installations, can prove that disinfection would create trihalomethane (THM) levels of 0.10 milligrams per liter or greater. The public water supply should explore alternate means of disinfection prior to requesting a variance. A variance can be granted for such systems, provided the system has the required equipment to verify that a detectable amount of chlorine residual is maintained at all

times. For systems under 10,000 population served, said systems shall have 90 days after a TTHM (Total Trihalomethane) exceedance of 0.100 milligrams per liter is determined to request said variance;

3. A variance shall be granted to a public water supply owned by and/or operated by, and/or created as a political subdivision in accordance with Article 6 Section 14 of the Constitution of the State of Louisiana;

4. In reference to (1), (2), and (3) above, on a case-by- case basis, when a bacteriological MCL occurs and an administrative order shall be or has been issued to that particular water system, the said water system shall be subject to the orders of the state health officer to take whatever remedial actions that are deemed necessary to comply with all applicable rules, regulations, standards, and the Louisiana Sanitary Code, including, but not limited to, the Louisiana Total Coliform Rule.

5. [Formerly paragraph 12:021-4.1] Variances must be requested in writing and must be approved prior to the effective date of the mandatory disinfection requirement as prescribed in §355 of this Part except the new conditions that arise in §361.A.2 above.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1327 (June 2002).

§363. Revocation of Variance
[formerly paragraph 12:021-5]

A. A variance from mandatory disinfection shall be revoked when a public water system has a bacteriological MCL violation. When a variance is revoked, the system must install mandatory continuous disinfection as stated in §355 of this Part within the times specified in a compliance schedule submitted to and approved by the state health officer. Such schedule shall be submitted within 10 days of receipt of notice of revocation. For systems affected under §361.A.2 of this Part, revocations because of a bacteriological MCL shall be evaluated on a case-by-case basis by the state health officer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1327 (June 2002).

§365. Batch Disinfection
[formerly paragraph 12:021-6]

A. The state health officer may allow batch disinfection for emergency purposes. Batch disinfection shall not be considered a method of continuous disinfection.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8)(13) and R.S. 40:5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1327 (June 2002).

§367. Records
[formerly paragraph 12:021-7]

A. Daily records of chlorine residual measurements shall be kept. These records shall be maintained on forms approved by the state health officer and shall be retained for a period of three years.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1327 (June 2002), amended LR 30:1195 (June 2004).

§369. Water Shall Be Provided
[formerly paragraph 12:022-1]

A. It shall be the duty of the owner or manager of any premises occupied as a residence, hotel, lodging house, tenement house, office building, shop, factory, or waiting room or depot of a railroad or other common carrier to provide a safe supply of potable water for human consumption and for sanitary purposes.

B. [Formerly paragraph 12:022-2] In all cases where the owner or owners of the property or premises referred to in this Code shall not reside in the place where the property is situated, or when such property shall belong to an estate, succession or corporation, it shall be the duty of the agent, or representative of the owners thereof, or the persons who shall have charge of said property for the owners thereof, or who shall collect the rent of such premises, if the same is rented, to provide and furnish such premises with a safe and adequate potable water supply. In case such person shall fail or neglect to supply the same to such premises, within 15 days after due notice, he shall be in violation of the provisions of this Part.

C. [Formerly paragraph 12:022-3] Each public, parochial and private school shall be provided with a potable water supply which is approved as to source, location, and distribution by the state health officer.

D. [Formerly paragraph 12:022-4] It shall be the duty of all employers to supply an adequate, safe, potable water supply for all employees.

E. [Formerly paragraph 12:022-5] Wherever a public water supply is available, no other supply shall be furnished for potable purposes to employees in any factory or industrial plant, or other place of business, unless such other supply is approved by the state health officer. If no public water supply is available, the water for potable purposes shall be of safe, sanitary quality approved by the state health officer. If the water supply for industrial or fire protection purposes is obtained entirely or in part from a source not approved for potable purposes, this supply shall be distributed through an independent piping system having no connection with the system carrying potable water. All faucets or other outlets furnishing water which is not safe for potable purposes shall be conspicuously so marked.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(4)(5)(8)(10) and R.S. 40:5 (2)(3)(5)(6)(16)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1327 (June 2002).

§371. Public Drinking Fountains
[formerly paragraph 12:023-1]

A. All public drinking fountains shall be designed and constructed in accordance with the provisions of the *Louisiana State Plumbing Code (LSPC)* as published October 2000. Drinking fountains and coolers shall be constructed of lead free materials as specified in §335.B of this Part.

B. [Formerly paragraph 12:023-2] Water fountains and coolers shall be so constructed that the ice or other refrigerant used for cooling cannot come in contact with the water.

C. [Formerly paragraph 12:023-3] Where water coolers or supply tanks used for drinking water are not directly connected to the source of supply, arrangements for filling the containers shall be such as to prevent contamination of the water.

D. [Formerly paragraph 12:023-4] The use of a common drinking cup is prohibited.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(7)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1328 (June 2002).

§373. Potable Water Loading Stations
[formerly paragraph 12:024]

A. Portable hoses used for filling water containers shall be provided with a metal disk at the nozzle to prevent contact of nozzle with ground or floors. When not in use, the portable hoses shall be protected from dirt and contamination by storage in a tightly enclosed cabinet and shall have a cap to cover the nozzle.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(7)(8) and R.S. 40:5 (5)(6).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1328 (June 2002).

§375. Issuance Of Emergency Boil Notices
[formerly paragraph 12:025]

A. An Emergency Boil Notice, when it is deemed necessary to protect public health, shall be authorized only by the state health officer. Once implemented, said notice may be rescinded or cancelled only by the state health officer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8)(13) and R.S. 40:5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1328 (June 2002).

§377. Adoption by Reference
[formerly paragraph 12:026]

A. The National Primary Drinking Water Regulations, as defined in §101 of this Part, are hereby incorporated by reference into this Part of the Sanitary Code and shall have the same force and effect of state law as any other section of this Part just as if they had been fully published herein. Every public water system shall comply with the National Primary Drinking Water Regulations as defined herein. When the National Primary Drinking Water Regulations as defined herein and the state's own rules and/or regulations applicable to public water systems conflict, the state's own rules and/or regulations shall govern [e.g., the Louisiana Total Coliform Rule (Chapter 9 of this Part, formerly Appendix C) provisions shall govern when any of the federal Total Coliform Rule provisions are found to conflict].

AUTHORITY NOTE: Promulgated in accordance with R.S. 36:254 (B)(7), R.S. 40:4 (A)(8), and R.S. 40:5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1328 (June 2002).

Chapter 5. Civil Penalty Assessment Rule
[formerly Appendix A]

§501. Statement of Purpose
[formerly Section 1.1 of Paragraph I of Appendix A]

A. This rule is intended to be a mechanism to secure rapid and full compliance with the requirements of the State Sanitary Code and other applicable laws and regulations relative to public water systems providing safe drinking water. It is not intended as a revenue gathering mechanism, and the Safe Drinking Water Program is not dependent upon any level of penalty revenue to balance its budget. It is based on the principle of reasonable

enforcement guidelines to be vigorously implemented. As defined by R.S. 40:5.9, penalties may be assessed only on the basis of non-compliance with corrective orders, rather than on the basis of the mere existence of a violation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1328 (June 2002).

§503. General Provisions
[formerly Section 2.1 of Paragraph II of Appendix A]

A. Nothing herein shall be construed to prohibit the state health officer from modifying the contents of an administrative order if changes are warranted to ensure compliance with applicable laws and regulations or to allow for the practical ability to comply with the items so ordered. It is incumbent upon the person to whom the administrative order was issued to submit a written request for order modifications when, for instance, it is realized that compliance cannot be achieved within the time constraints specified in the order due to unforeseen problems or delays such as inclement weather conditions. Such requests shall be considered if the request is received by the state health officer not later than five days before the compliance deadline expires. In order to show proof and date of service, the person requesting any order modifications shall do so by at least one of the following methods:

1. use of the United States Postal Service via certified mail-return receipt requested, registered mail-return receipt requested, or express mail-return receipt requested.
2. transmission by facsimile machine will also be accepted; however, the state health officer shall be deemed not to have officially received a facsimile transmission until such time as the requester has received a written acknowledgment, via facsimile or mail, of receipt from the Office of Public Health. Said acknowledgment of receipt shall state the date when the Office of Public Health actually received the transmission and this date, regardless the sender's transmission date, shall be used in the determination of whether or not the time limit stated above was met. It is the responsibility of the sender to ask the Office of Public Health for a written acknowledgment of receipt of any facsimile transmissions which may be sent to the state health officer.
3. use of a private shipping service, such as United Parcel Service, Federal Express, etc. when such a service can provide a written receipt to the sender stating the date of delivery to the state health officer.

B. [Formerly Section 2.2 of Paragraph II of Appendix A] Additionally, nothing herein shall be construed to mandate that the state health officer is required to assess penalties in the event of noncompliance with a provision of an administrative compliance order issued pursuant to LSA - R.S. 40:5.9; however, this rule is intended to delineate the procedure for calculating the monetary amount of the civil penalty assessment after the state health officer has decided to assess and impose penalties for noncompliance.

C. [Formerly Section 2.3 of Paragraph II of Appendix A] When reference is made to a public water system herein, such reference is limited to an individual public water system uniquely identified by its own Public Water System Identification Number (PWS ID No.).

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1329 (June 2002).

§505. Calculation of Daily Penalties
[formerly Section 3.1 of Paragraph III of Appendix A]

A. R.S. 40:5.9(A) authorizes the state health officer to assess a civil penalty up to \$3,000 a day for each day of violation and for each act of violation of a provision of an administrative compliance order.

B. [Formerly Section 3.2 of Paragraph III of Appendix A] For purposes of implementation of R.S. 40:5.9, violation of one or more provisions of an administrative compliance order shall be handled as follows:

1. All violations for a given public water system shall be handled as a package (*i.e.*, the statutory maximum daily penalty of \$3000 per day per violation will be handled as a maximum daily penalty of \$3000 per day per public water system regardless of the number of individual violations). The daily penalty assessment amount shall be based upon the most serious uncorrected violation. As the level of seriousness classification or the level of culpability associated with the most serious uncorrected violation in the package changes, the daily penalty assessment amount will be recalculated accordingly from that time forward and added to any previously calculated assessment amounts.

2. In lieu of the requirements of §505.B.1 above, the state health officer, at his sole discretion, is authorized to impose a penalty of no less than \$1000 per day per violation for those public water systems serving more than 10,000 individuals [see Fed. Reg.: April 28, 1999 (Volume 63, Number 81, page 23,367)].

C. [Formerly Section 3.3 of Paragraph III of Appendix A] The maximum daily penalty applicable to a particular public water system in violation of one or more of the provisions of an administrative compliance order shall be determined as follows:

1. When a penalty is calculated pursuant to §505.B.1 above, the maximum daily penalty shall be set at \$1 per service connection per day based upon the number of service connections listed on Office of Public Health records on the day the administrative order was first issued, but within the following limitations and restrictions:

a. The maximum daily penalty for public water systems having more than 3,000 service connections shall be \$3,000 per day.

b. The maximum daily penalty for public water systems having less than 30 service connections shall be \$30 per day.

2. When a penalty is calculated pursuant to §505.B.2 above, the maximum daily penalty shall be set at \$1 per service connection per day per violation based upon the number of service connections listed on Office of Public Health records on the day the administrative order was first issued, but within the following limitations and restrictions:

a. The maximum daily penalty for public water systems having more than 3,000 service connections shall be \$3,000 per day per violation.

b. The maximum daily penalty for public water systems having 2500 service connections (*i.e.*, equivalent to 10,000 individuals served) shall be \$2500 per day per violation.

D. [Formerly Section 3.4 of Paragraph III of Appendix A] Pursuant to §505.B and C above, the exact level of the daily penalty shall be based on the seriousness of the violation and culpability of the owner and/or operator as follows:

1. Using the maximum daily penalty specified in §505.C above as the basis for calculation, 50 percent of the maximum daily penalty amount shall be judged on the seriousness of the violation and the other 50 percent shall be judged on the culpability of the owner and/or operator.

2. The decision regarding the exact penalty assessment amounts for the seriousness of the violation(s) and the accompanying culpability of the owner and/or operator shall be made by the state health officer after considering a staff recommendation based upon the "Accompanying Guidelines to the Civil Penalty Assessment Rule" (Chapter 7 of this Part, formerly Appendix B).

3. When the state health officer utilizes §505.B.2 above as the basis for penalty calculation, the minimum daily penalty assessment amount shall in no case be less than \$1000 per day per violation after the provisions of §505.D.1 and 2 above are applied [see Fed. Reg.: April 28, 1999 (Volume 63, Number 81, page 23,367)].

E. [Formerly Section 3.5 of Paragraph III of Appendix A] The duration of non-compliance with a provision of the administrative compliance order shall be determined as follows:

1. Once an administrative order has become final and not subject to further administrative review, the state health officer shall direct staff to conduct an initial investigation for the purpose of determining compliance/non-compliance with the provision(s) of the administrative order. The initial investigation shall be conducted within five working days after the time limit granted for compliance within the administrative order ends. If upon agency investigation it is found that non-compliance still exists, staff will immediately provide a copy of the investigatory report to the person on-site in responsible charge of the public water system which will serve to notify the person to whom the administrative order was issued that the agency has determined that non-compliance still exists and that daily penalty assessments shall begin to accrue immediately from this date forward until such time as the agency has been notified by the public water system that compliance has been achieved. If a representative of the public water system is not present or reasonably available at the time of the agency's investigation, staff shall, on the same day as the investigation, attempt to contact via telephone or facsimile machine the person to whom the administrative order was issued or such other responsible person in the employ of the public water system in order to provide speedy notification of results which are deemed by agency staff to cause the continuance of daily penalty assessments. In the latter case involving only verbal or electronic communication, agency staff shall, as soon as possible thereafter, transmit a copy of the investigatory report to the person to whom the administrative order was issued by one of the methods of mailing stated in §503.A.1 of this Part.

2. After the agency has conducted the initial investigation, determined that non-compliance with a provision of the administrative order still exists, and has provided a copy of the investigatory report as stated in §505.E.1 above, it then becomes incumbent upon the person to whom the administrative order was issued to notify the agency when compliance has been achieved. In order to show proof and date of service, such notice advising the agency of compliance shall be transmitted to the agency in the same manner as described in §503.A.1, 2, or 3 of this Part. Until such time as the agency has been properly notified of correction, the agency will consider the duration to begin on the date of the initial investigation and will presume that such violation is continuing on a daily basis until such time as the agency has received notification of correction. Once the agency is notified of correction, agency staff shall conduct a follow-up investigation in order to confirm compliance. Such follow-up investigation shall be conducted within 10 working days of agency receipt of the public water system's notice of compliance. If upon agency's follow-up investigation it is found that non-compliance still exists, staff will so advise the public water system in the same manner as done for initial investigations with the exception that the public water system will be advised that previously running daily penalty assessments have and will continue to accrue pending yet additional notification of compliance by the public water system to the agency. When the results of the follow-up investigation confirm that compliance has in fact been achieved, then the date that the agency received notification of compliance from the public water system for the particular provision of the administrative order in question shall be considered the last day of non-compliance for purposes of calculating the duration for non-compliance with this particular provision.

3. The steps described in §505.E.1 or 2 above may continue for an indefinite period of time but shall end once compliance has been confirmed by agency staff unless such violation is found to reoccur while the administrative order is still in effect.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5 (6) and R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1329 (June 2002).

§507. Payment of Penalty/Ability to Request Mitigation of Penalty and/or Adjudicatory Hearing

A. [Formerly Section 4.1 of Paragraph IV of Appendix A] At the discretion of the state health officer, notice(s) imposing penalty assessments may be issued from time to time subsequent to either initial non-compliance with any provision of the administrative compliance order or subsequent to any continuance or reoccurrence of non-compliance while the administrative compliance order remains effective. Notices of imposition of penalties shall be served by one of the forms of service described in §503.A.1 of this Part or hand-delivered. Within the notice imposing the penalty assessment, the state health officer will inform the owner and/or operator of the public water system of the ability to apply for mitigation of the penalties imposed and for the opportunity for an adjudicatory hearing on the record relative to contesting the imposition of the penalty assessment. Penalties shall not be imposed upon any person without notice and opportunity for hearing.

B. [Formerly Section 4.2 of Paragraph IV of Appendix A] Once a penalty assessment is imposed, it shall become due and payable 35 days after receipt of notice imposing the penalty unless a written application for mitigation or a written request for an adjudicatory hearing on the record relative to contesting the imposition of the penalty assessment is received by the state health officer within 20 days after said notice is served. In order to show proof and date of service, the person applying for mitigation or an adjudicatory hearing shall transmit the written application for mitigation or written request for hearing to the agency in the same manner as described in §503.A.1, 2, or 3 of this Part.

C. [Formerly Section 4.3 of Paragraph IV of Appendix A] Upon receipt of a written application for mitigation of such penalty, the state health officer may mitigate the penalty, *i.e.*, upon proof that all of the stipulations in the administrative order have now been complied with or upon agreement to and compliance with a Stipulation and Agreed Order setting out the conditions which will mitigate the penalty. The accompanying guidelines referenced in §505.D.2 of this Part shall also contain guidance for the state health officer when considering the amount of mitigation of the imposed penalty. When the amount of the penalty imposed is from \$1,000 up to \$5,000, the state health officer shall not mitigate the penalty below \$500. When the amount of the penalty imposed is less than \$1000, the state health officer shall not mitigate the penalty below one-half of the imposed penalty amount. The penalty shall become due and payable 35 days after mailing of notice setting forth the final disposition of the application for mitigation, unless

1. an application for an adjudicatory hearing to contest the disposition is received within 20 days after the date of mailing the disposition notice; or
2. the state health officer specifies a different payment schedule within the disposition notice.

D. [Formerly Section 4.4 of Paragraph IV of Appendix A] Upon the timely receipt of a written application requesting an adjudicatory hearing, a hearing on the record relative to contesting the imposition of the penalty assessment may be scheduled by the agency. If after consideration of the record it is found that the issuance of the notice imposing the penalty assessment was not proper as supported by and in accordance with the evidence, the administrative law judge shall have the authority to recommend adjustment of the penalty to comply with any items found to be in error or, if justified, withdrawal of the entire penalty. The penalty shall become due and payable 35 days after mailing of notice of the final decision by the agency, unless the final decision by the agency specifies a different payment schedule within the final decision.

E. [Formerly Section 4.5 of Paragraph IV of Appendix A] When a Stipulation and Agreed Order has been proposed by the agency or the administrative law judge, a fixed number of days will be given for response. If the Stipulation and Agreed Order is not signed and returned by the date fixed or if no response is received by the date fixed, this shall result in both the reimposition of the penalty originally imposed as well as the addition of daily penalties not previously counted from the time the order was first violated. Alternatively, failure of a public water system to comply with the conditions of a Stipulation and Agreed Order shall result in both the reimposition of the penalty originally imposed as well as the addition of daily penalties not previously counted from the time the order was first violated.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1330 (June 2002).

§509. Court Appeals
[formerly Section 5.1 of Paragraph V of Appendix A]

A. A person who is aggrieved by a final decision of the agency relative to penalty imposition may petition for judicial review according to the provisions of R.S. 49:964 of the Administrative Procedure Act. Proceedings for review may be instituted by filing a petition in the Nineteenth Judicial District Court, Parish of East Baton Rouge, within 30 days after mailing of notice of the final decision by the agency. Copies of the petition shall be served upon the agency and all parties of record.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1331 (June 2002).

Chapter 7. Accompanying Guidelines to the Civil Penalty Assessment Rule
[formerly Appendix B]

§701. Statement of Purpose
[formerly Section 1.1 of Paragraph I of Appendix B]

A. The purpose of these "Accompanying Guidelines to the Civil Penalty Assessment Rule" (Chapter 7 of this Part) are as follows:

1. This rule is intended to provide guidance for Safe Drinking Water Program staff in making recommendations to the state health officer regarding the exact penalty assessment amounts for the seriousness of the violation(s) and the culpability of the owner and/or operator when it has been determined that a public water system has failed to comply with the directives of an administrative order.

2. Additionally, guidance relative to determining mitigated penalty amounts are also contained herein. Such mitigation guidance is applicable irrespective of the method used in the calculation of penalties, *i.e.*, irrespective of whether §505.B.1 or B.2 of the "Civil Penalty Assessment Rule" (Chapter 5 of this Part) was used.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1331 (June 2002).

§703. Seriousness of Violation
[formerly Section 2.1 of Paragraph II of Appendix B]

A. Pursuant to §505.B and D of the "Civil Penalty Assessment Rule" (Chapter 5 of this Part), the following penalty assessment levels shall apply towards the seriousness of the violation (public health risk) for the various classifications of violations described in §707.A of the "Accompanying Guidelines to the Civil Penalty Assessment Rule" (Chapter 7 of this Part):

1. Imminent threat (high risk) type violations shall be assessed at 100 percent of one-half of the maximum daily penalty amount.

2. Priority threat (moderate risk) type violations shall be assessed at 65 percent of one-half of the maximum daily penalty amount.

3. Non-imminent threat (low risk) type violations shall be assessed at 35 percent of one-half of the maximum daily penalty amount.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1331 (June 2002).

§705. Culpability of the Owner and/or Operator
[formerly Section 3.1 of Paragraph III of Appendix B]

A. Pursuant to §505.B and D of the "Civil Penalty Assessment Rule" (Chapter 5 of this Part), the following penalty assessment levels shall apply towards the culpability (the level of blame for the occurrence and/or continuance of a violation including factors such as attitude as well as the nature and extent of the efforts to comply) of the owner and/or operator for the particular violation for which a seriousness penalty is assessed:

1. Culpability determined to be deliberate or intentional (a willful action or lack of action) shall be assessed at 100 percent of one-half of the maximum daily penalty amount.

2. Culpability determined to be recklessness (wanton disregard of the consequences but proceeded with risk in mind) shall be assessed at 65 percent of one-half of the maximum daily penalty amount.

3. Culpability determined to be negligence (failure to prevent the violation due to indifference, lack of reasonable care, lack of diligence, etc.) shall be assessed at 35 percent of one-half of the maximum daily penalty amount.

4. Culpability determined to be non-existent (those cases where the operator and/or owner has acted reasonably, but the violation occurred anyway) shall be assessed at 0 percent of one-half of the maximum daily penalty amount, *i.e.*, \$0.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1332 (June 2002).

§707. Classification of Violations
[formerly Section 4.1 of Paragraph IV of Appendix B]

A. The various types of violations which can occur are classified into three levels of seriousness based upon their public health risk. The three levels of seriousness are defined as follows.

1. *Imminent threat* type violations are defined as those violations considered to be of an acute risk to public health requiring an immediate action or response by the owner and/or operator of a public water system. Imminent threat type violations include, but are not limited to, the following:

- a. exceeding maximum contaminant levels for nitrate.
- b. exceeding the maximum contaminant level for total coliform when fecal coliform or *E. coli* is present in the water distribution system.
- c. occurrence of a water-borne disease outbreak in an unfiltered surface water system or an unfiltered ground water system which is under the direct influence of surface water.
- d. any violation specified by the state health officer as posing an acute risk to human health.

e. failure to comply with any remedial action(s) ordered in the context of an emergency order issued by the state health officer, such as but not limited to *Boil Notices*.

f. failure to give public notification of an acute violation (Tier 1 - Acute) within the time frames allowed by law or duly adopted rule.

2. *Priority threat* type violations are defined as those violations considered to be of a moderate risk to public health but which could result in an acute risk and therefore require an immediate action or response by the owner and/or operator. Priority threat violations include, but are not limited to, the following:

a. exceeding the maximum contaminant level for total coliform;

b. failure to comply with a treatment technique requirement;

c. failure to comply with a variance or exemption schedule;

d. exceeding the maximum contaminant level for a physical, radiological, or chemical (other than nitrate) contaminant. For the purpose of clarification, a physical contaminant is defined as turbidity, temperature, conductivity, color, taste, or odor;

e. failure to perform compliance monitoring as required for any bacteriological, physical, radiological, or chemical contaminant;

f. failure to utilize either a laboratory certified by the Office of Public Health or an Office of Public Health laboratory which has been certified by EPA for compliance monitoring determination of any bacteriological, physical, radiological, or chemical contaminant in drinking water when such contaminant determination is required by law or duly adopted rule to be analyzed by an EPA or state-certified laboratory;

g. failure to perform proper testing procedures for turbidity, disinfectant residual, temperature, pH, conductivity, alkalinity, calcium, silica, orthophosphate, or any other parameter which is not required to be analyzed in an EPA or state-certified laboratory but the results of which are required to be reported to the state for compliance monitoring determinations;

h. failure to report the results of any test measurement or analysis to the state within the time frame allowed by law or duly adopted rule;

i. failure to comply with any remedial action(s) ordered in the context of a non-emergency order issued by the state health officer;

j. failure to give public notification of a non-acute (Tier 1 - Non-Acute) violation within the time frames allowed by law or duly adopted rule.

3. *Non-imminent threat* violations are defined as those violations considered to be of a low risk to public health which do not require an immediate response by the owner and/or operator. These include operational deficiencies, facility deficiencies, and administrative deficiencies. Non-imminent threat type violations include, but are not limited to, the following:

a. failure to give public notification of a monitoring violation, testing procedure violation, variance grant or existence, or exemption grant or existence (Tier 2) within the time frames allowed by law or duly adopted rule;

b. failure to comply with an operational or maintenance requirement;

- c. failure to comply with design and construction standards as required by law or duly adopted rule;
- d. failure to submit plans and specifications as required by law or duly adopted rule;
- e. failure to comply with an operator certification requirement;
- f. failure to submit to the state, within the time frames allowed by law or duly adopted rule, a representative copy of each type of public notice distributed, published, posted, and/or made available to the persons served by the system and/or to the news media;
- g. failure to maintain records as prescribed by law or duly adopted rule, such as but not limited to, bacteriological and chemical analyses.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1332 (June 2002).

§709. Mitigation Guidance
[formerly Section 5.1 of Paragraph V of Appendix B]

A. Section 507.C of the "Civil Penalty Assessment Rule" (Chapter 5 of this Part) allows the state health officer to mitigate penalties that have been imposed generally either upon proof that all of the provisions in the administrative compliance order have now been complied with or upon compliance with terms of a Stipulation and Agreed Order. The following guidance will be used by the state health officer upon such mitigation proceedings.

1. When considering mitigation of the imposed penalty upon receipt of written application requesting such mitigation, the state health officer shall have the discretion to reduce the imposed penalty beginning at a reduction rate of 0 percent up to no more than 90 percent. The ordinarily expected mitigation reduction rate shall be 50 percent of the assessed penalty for the first 60 days of assessed penalty and an 80 percent reduction rate for penalties assessed beyond day 60. Using this procedure, if the end result of the calculated mitigated penalty amount is less than the minimum mitigation limits specified in §507.C of the "Civil Penalty Assessment Rule" (Chapter 5 of this Part), the minimum mitigation limits specified therein shall apply.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:5.9 (A)(4).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1333 (June 2002).

Chapter 9. Louisiana Total Coliform Rule
[formerly Appendix C]

§901. Federal Regulations Adopted by Reference
[formerly the preamble paragraph opening Appendix C]

A. The State of Louisiana Department of Health and Hospitals (DHH) Office of Public Health (OPH) adopts the United States Environmental Protection Agency (EPA) Federal Total Coliform Regulations as published in the Federal Register, Volume 54, Number 124 Thursday, June 29, 1989. The Louisiana Total Coliform Rule is to be published as Chapter 9 in Part XII of the State Sanitary Code. In order to clarify the state's discretionary decisions allowed by the federal requirements, the following is offered.

AUTHORITY NOTE: Promulgated in accordance with R. S. 40: 4 (A)(8) and 40:5 (3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1333 (June 2002).

§903. Coliform Routine Compliance Monitoring
[formerly Coliform Routine Compliance Monitoring of Appendix C]

A. Each public water supply must be monitored in accordance with a written sampling plan prepared by the public water supply (PWS) personnel in conjunction with the parish sanitarian. The sampling plan must be reviewed and approved by OPH District/Regional engineering staff. The sampling plan should include a map or sketch of the system with the points of collection (POC) identified along with the street address and/or sufficient information for an unfamiliar person to find the sampling site.

B. The water supply must provide suitable taps which draw water directly from the mains or the service lines. Such taps provide for samples which are most representative of the quality of water provided without "interference" which may be caused by plumbing problems within residences or other structures. Use of such taps decreases the chance of "bad samples" resulting in a coliform maximum contaminant level (MCL) violation which requires public notification by the public water supply and an administrative enforcement action by the EPA/DHH against the public water supply.

C. Community systems must be routinely monitored in accordance with Table 1.

Table 1			
Population served	Minimum number of routine samples per month	Population served	Minimum number of routine samples per month
25 to 1,000	1	59,001 to 70,000	70
1,001 to 2,500	2	70,001 to 83,000	80
2,501 to 3,300	3	83,001 to 96,000	90
3,301 to 4,100	4	96,001 to 130,000	100
4,101 to 4,900	5	130,001 to 220,000	120
4,901 to 5,800	6	220,001 to 320,000	150
5,801 to 6,700	7	320,001 to 450,000	180
6,701 to 7,600	8	450,001 to 600,000	210
7,601 to 8,500	9	600,001 to 780,000	240
8,501 to 12,900	10	780,001 to 970,000	270
12,901 to 17,200	15	970,001 to 1,230,000	300
17,201 to 21,500	20	1,230,001 to 1,520,000	330
21,501 to 25,000	25	1,520,001 to 1,850,000	360
25,001 to 33,000	30	1,850,001 to 2,270,000	390
33,001 to 41,000	40	2,270,001 to 3,020,000	420
41,001 to 50,000	50	3,020,001 to 3,960,000	450
50,001 to 59,000	60	3,960,001 or more	480

D. Non-Community systems using ground water must routinely monitor once in each calendar quarter during which the system provides water to 1000 or less persons. A non-community system using ground water and serving more than 1000 persons must monitor monthly in accordance with Table 1. Any non-community using any surface water, or using ground water under the direct influence of surface water must monitor in accordance with Table 1.

E. The public water supply must collect samples at regular time intervals throughout the month unless the state staff specifies otherwise or state staff collect the samples.

F. Special purpose samples (investigative samples) shall not be used to determine compliance with the total coliform MCL.

G. Whenever a system that normally collects less than five routine distribution system samples each month receives a positive coliform analysis, it must collect at least five routine distribution system samples the next month regardless of the results of repeat sampling.

AUTHORITY NOTE: Promulgated in accordance with R. S. 40: 4 (A)(8) and R.S. 40:5 (3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1333 (June 2002).

§905. Coliform Repeat Compliance Monitoring
[formerly Coliform Repeat Monitoring of Appendix C]

A. If a routine sample is total coliform positive and the public water supply has their own certified laboratory, repeat samples must be collected by the public water supply within 24 hours of being notified of the positive result. If the state collects and analyzes the samples, repeat samples will be collected by parish health unit staff within 24 hours of official notification. The number of repeat samples collected shall be in accordance with Table 2.

Table 2		
Monitoring and Repeat Sample Frequency		
After a Total Coliform Positive Routine Sample		
No. routine samples/month	No. repeat samples/positive	No. routine samples next month
1/month or fewer	4	5/month
2/month	3	5/month
3/month	3	5/month
4/month	3	5/month
5/month or greater	3	Table 1

B. At least one repeat sample must be collected from the sampling tap where the original total coliform positive sample was taken and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. The fourth sample must come from a tap within five service connections upstream or within five service connections downstream. The fourth sample may not come from the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one away from the end of the distribution system the requirement to collect at least one repeat sample upstream or downstream of the original sampling site is waived.

C. The repeat samples must be collected on the same day.

D. In a system with a single service connection, four 100ml repeat samples must be collected. Three 100ml samples must be collected in a system if more than one routine sample per month is collected.

E. If coliforms are detected in any repeat sample, the system must collect another set of repeat samples from the same location unless the MCL has already been violated and the state is aware of violation. If short term corrective actions are not successful, the public water supply must install continuous disinfection and implement a routine flushing program as directed by OPH.

AUTHORITY NOTE: Promulgated in accordance with R. S. 40: 4 (A)(8) and R.S. 40:5 (3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1334 (June 2002).

§907. Fecal Coliform/*E. coli* Analysis Required

A. If a routine or repeat sample result is positive for total coliform, the sample must also be analyzed for fecal coliform or *E. coli* immediately.

AUTHORITY NOTE: Promulgated in accordance with R. S. 40: 4 (A)(8) and R.S. 40:5 (3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1335 (June 2002).

§909. Invalidation of Total Coliform Results
[formerly Invalidation of Total Coliform Results of Appendix C]

A. Analysis results may be invalidated under specified conditions, including:

1. The OPH acknowledges improper analysis occurred or background bacteriological interference was present.
2. The OPH determines the contamination is from an internal plumbing problem, not the distribution system.
3. The OPH concludes, and states in writing, that the result is due to some condition not related to water quality. This written conclusion must be signed by an OPH representative and made available to the public and EPA.

AUTHORITY NOTE: Promulgated in accordance with R. S. 40: 4 (A)(8) and R.S. 40:5 (3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1335 (June 2002).

§911. Total Coliform Maximum Contaminant Level
[formerly Total Coliform MCL of Appendix C]

A. The maximum contaminant level (MCL) is based on the presence or absence of total coliform rather than on coliform density.

1. If 40 or more distribution system samples are collected per month, no more than 5.0 percent of the monthly samples may be total coliform positive.

NOTE: If collecting more than 40 samples per month, occasional positives may be tolerated, as long as the number each month does not exceed 5.0 percent of the total samples.

2. If less than 40 distribution system samples are collected per month, no more than one sample per month may be total coliform positive.

NOTE: If collecting less than 40 samples per month, the second positive coliform analysis in any month will result in an MCL violation.

3. A violation is considered acute and is subject to more stringent public notification requirements when:

- a. A coliform-positive original sample that is also positive for fecal coliform (or *E. coli*) is followed by a positive coliform repeat sample, or

- b. a coliform-positive original sample followed by a coliform-positive repeat sample is also positive for fecal coliform (or *E. coli*).

AUTHORITY NOTE: Promulgated in accordance with R. S. 40: 4 (A)(8) and R.S. 40:5 (3)(5)(6)(17)(20).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1335 (June 2002).

§913. Public Notification
[formerly Public Notification of Appendix C]

A. Public notification requirements remain unchanged from the 1989 revisions as specified.

1. If the MCL is exceeded, the supplier of water is required to provide public notice in a daily or weekly newspaper within 14 days. Where newspaper notice is not feasible for a non-community public water supply, continuous posting may be substituted. In addition to newspaper notice, a notice must also be provided to the consumers by direct mail or hand delivery within 45 days.

a. For an acute MCL violation, a notice shall also be furnished by community systems only to radio and television stations serving the area within 72 hours.

b. In larger systems, an MCL violation and public notice may be confined to a portion of the distribution system.

2. In addition, public notification is required within three months if a supplier of water fails to comply with a monitoring and/or reporting requirement.

3. If a replacement sample can not be analyzed and give a readable result, the public water supply will be assessed a monitoring violation and must give appropriate public notification.

AUTHORITY NOTE: Promulgated in accordance with R. S. 40: 4 (A)(8) and R.S. 40:5 (3)(5)(6)(17)(20).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1335 (June 2002).

Chapter 11. Interim Enhanced Surface Water Treatment Rule

Subchapter A. General Requirements and Definitions

§1101. General Requirements

A. For public water systems using surface water or groundwater under the direct influence of surface water (GWUDISW), this Chapter establishes or extends treatment technique requirements in lieu of maximum contaminant levels for the following microbial contaminants: *Giardia lamblia* (cysts), viruses, heterotrophic plate count bacteria, *Legionella*, turbidity, and (for public water systems using surface water or GWUDISW as its source of water supply and serving at least 10,000 individuals) *Cryptosporidium* oocysts.

B. Each supplier using an approved surface water as its source of water supply shall provide multibarrier treatment necessary to reliably protect users from the adverse health effects of microbiological contaminants and to comply with the requirements and performance standards prescribed in this Chapter.

C. Unless the Department of Health and Hospitals, hereinafter referred to as DHH, determines that a shorter time limit is necessary due to an emergency situation or the finding of a significant deficiency, a supplier shall, within 90 days from the date of notification by DHH that a treatment plant using surface water or GWUDISW as its source of water supply does not meet the requirements of this Chapter, submit for DHH approval a plan and schedule to bring its system into compliance.

D. If the supplier disagrees with the DHH's notification issued pursuant to §1101.C of this Part, then the supplier shall submit in writing reasons and evidence for its disagreement as soon as possible but not later than 30 days from the receipt of the notification unless an extension of time to meet this requirement is requested and granted by the DHH. In cases when DHH's notification involves an emergency situation or the finding of a significant deficiency, the supplier shall submit in writing reasons and evidence for its disagreement as soon as possible but not later than 14 days from the receipt of such notification.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and R.S. 40:5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1335 (June 2002), amended LR 28:2514 (December 2002).

§1103. Definition of Terms

A. Words Not Defined. Words not defined in this Chapter shall have the meanings stated in §101 of this Part or other Parts of the Louisiana State Sanitary Code. When words not defined in this Chapter are defined in both §101 of this Part and in another Part of the Louisiana State Sanitary Code, the definition contained within §101 of this Part shall be given preference as it pertains to water supplies. Words not defined in any of these source documents shall have the meanings stated in the Merriam-Webster's Collegiate Dictionary-Tenth Edition, as revised.

B. Definitions. Definitions contained in §101 of this Part shall also apply to this Chapter except where the following special definitions apply:

Approved Surface Water—a surface water or GWUDISW that has received permit approval from the DHH as a source of water supply for a public water system.

Best Available Technology—for the purpose of this Chapter in relation to the treatment of surface water, means conventional filtration treatment which conforms with all of the requirements of this Chapter.

Calibration_{dra}—to standardize [adjust the instrument response to a National Institute of Standards and Technology (NIST) traceable standard] a disinfectant residual analyzer (such as, but not limited to, a bench top or a continuous monitoring disinfectant residual analyzer using colorimetry or spectrophotometry) by determining the deviation from a NIST traceable standard so as to ascertain and implement the proper correction factors in an attempt to obtain accurate and reliable sample results.

Calibration_{pH}—to standardize (adjust the instrument response to a pH primary standard) a pH meter (such as a bench top or continuous monitoring pH meter) by determining the deviation from a pH primary standard so as to ascertain and implement the proper correction factors in an attempt to obtain accurate and reliable results.

Calibration_t—to standardize (adjust the instrument response to a turbidity primary standard) a turbidimeter (such as a bench top or continuous monitoring turbidimeter) by determining the deviation from a turbidity primary standard so as to ascertain and implement the proper correction factors in an attempt to obtain accurate and reliable sample results.

Calibration_{temp}—to standardize [adjust the instrument response to a NIST traceable standard] a temperature measuring device (such as a thermometer or thermocouple) by determining the deviation from a NIST traceable standard so as to ascertain and implement the proper correction factors in an attempt to obtain accurate and reliable sample results.

Certified Operator—for the purpose of this Chapter, the individual, as examined by the Committee of Certification and as approved by the State Health Officer, meeting all requirements of State Law and regulation and found competent to operate a treatment plant for a public water system which utilizes surface water or GWUDISW as its source of water supply.

Coagulation—a process using coagulant chemicals and rapid mixing by which colloidal and suspended material are destabilized and agglomerated into settleable and/or filterable flocs.

Comprehensive Performance Evaluation (CPE)—a thorough review and analysis of a treatment plant's performance-based capabilities and associated administrative, operation, and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. It consists of at least the following components: assessment of plant performance; evaluation of major unit processes; identification and prioritization of performance limiting factors; assessment of the applicability of comprehensive technical assistance; and, preparation of a CPE report.

Conventional Filtration Treatment—a series of treatment processes which includes coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal.

Deep Bed Filtration—a process for removing particulate matter from water by passage through porous media exceeding 42 inches in total depth. Underdrain gravels are not to be included.

Diatomaceous Earth Filtration—a process resulting in particulate removal in which a precoat cake of graded diatomaceous earth filter media is deposited on a support membrane (septum) and, while the water is being filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake.

Direct Filtration Treatment—a series of processes including coagulation, flocculation, and filtration but excluding sedimentation.

Disinfectant Contact Time ("T" in CT calculations)—the time in minutes that it takes for water to move from the point of disinfectant application or a previous point of disinfectant residual measurement to a point before or at the point where residual disinfectant concentration is measured. The point of measurement shall be before or at the first customer. Disinfectant contact time in pipelines is calculated by dividing the internal volume of the pipe by the flow rate through the pipe. Disinfectant contact time with mixing basins and storage reservoirs is determined by tracer studies or an equivalent demonstration to the DHH.

Disinfection—a process which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

Disinfection Profile—a summary of daily *Giardia lamblia* inactivation through the treatment plant. For any system that uses either chloramines or ozone for primary disinfection, this term shall additionally include a summary of daily virus inactivation through the treatment plant.

Engineering Report—a water treatment technical report prepared by a qualified engineer.

Filter Profile—a graphical representation of individual filter performance, based on continuous turbidity measurements versus time for an entire filter run, from startup to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed.

Filtration—a process for removing particulate matter from water by passage through porous media.

Flocculation—a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable or filterable particles through gentle stirring by hydraulic or mechanical means.

Groundwater Under the Direct Influence of Surface Water (GWUDISW)—any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large diameter pathogens such as *Giardia lamblia* or (for public water systems using surface water or GWUDISW as its source of water supply and

serving at least 10,000 individuals) *Cryptosporidium*, or significant and relatively rapid shifts in site specific water characteristics such as turbidity, temperature, conductivity or pH which closely correlate to climatological or surface water conditions. The DHH determination of direct influence may be based on an evaluation of site specific measurements of water quality and/or well characteristics and geology with field evaluation.

Heterotrophic Plate Count (HPC)—laboratory analytical procedure for estimating the number of live heterotrophic bacteria in water using instrumentation and methods as described in *Standard Methods for the Examination of Water and Wastewater*, 19th Edition. Results of such analysis is reported as “colony-forming units per milliliter” (cfu/ml).

Legionella—a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires disease.

Multibarrier Treatment—a series of water treatment processes that provide for both removal and inactivation of waterborne pathogens.

Nephelometric Turbidity Unit (NTU)—a measurement of the turbidity of water as determined by the comparison of the intensity of light scattered by the sample to the intensity of incident light, using instrumentation and methods described in §1105.B of this Chapter.

Peak Hourly Flow—the maximum flow through a particular disinfection segment over a 1 hour period during 24 hourly periods in a calendar day.

Pressure Filter—a pressurized vessel containing properly sized and graded granular media.

Primary Standard (Turbidity)—“turbidity primary standard”.

Qualified Engineer—any engineer who has been registered under the provisions of R.S. 37:681, *et seq.*, and who holds a current certificate issued by the Louisiana Professional Engineering and Land Surveying Board, and who has knowledge and experience in water treatment plant design, construction, operation, and watershed evaluations.

Residual Disinfectant Concentration (“C” in CT calculations)—the concentration of the disinfectant in milligrams per liter (mg/l) in a representative sample of water.

Sedimentation—a process for removal of settleable solids before filtration by gravity or separation.

Slow Sand Filtration—a process involving passage of raw water through a bed of sand at low velocity (less than 0.10 gallons per minute per square foot) resulting in substantial particulate removal by physical and biological mechanisms.

Supplier—for the purpose of this Chapter, means the owner or operator of a public water system.

Surface Water—all water open to the atmosphere and subject to surface runoff.

Turbidity—a measure of the decline of the clarity of water caused by suspended and colloidal matter, such as clay, silt, finely divided organic and inorganic matter, plankton, and other microscopic organisms. It is formally expressed as the optical property that causes light to be scattered and absorbed, rather than transmitted with no change in direction through the sample.

Turbidity Level—the value in NTU obtained by measuring the turbidity of a representative grab sample of water at a specified regular interval of time. If continuous turbidity monitoring is utilized, the turbidity level is the discrete turbidity value at any given time.

Turbidity Primary Standard—a suspension used to calibrate a turbidimeter, such as user-prepared formazin, commercial stock formazin suspensions, or commercial styrene-divinylbenzene suspensions. Such suspensions shall be prepared and used in conformity with the laboratory methods described in §1105.B of this Chapter.

Validation—to determine the degree of deviation of a measuring instrument (such as a bench top or continuous monitoring turbidimeter) from a primary standard by employing less sophisticated or involved means typically employed during a calibration, such as use of a state-approved secondary standard.

Virus—any of a large group of submicroscopic agents (that consist of a RNA or DNA core of genetic material surrounded by a protein coat but no semipermeable membrane) that are capable of growth and multiplication only in living cells and that are infectious to humans by waterborne transmission and that cause various important diseases in humans, including, but not limited to, poliomyelitis, aseptic meningitis, infectious hepatitis, gastroenteritis, etc.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8), R.S. 40:5(2)(3)(5)(6)(17)(20), and R.S. 40:1148.

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1336 (June 2002), amended LR 28:2514 (December 2002), amended LR 30:1195 (June 2004).

§1105. Analytical Requirements

A. Analysis for total coliform, fecal coliform, or HPC which may be required (or, in the case of HPC, optionally allowed in lieu of a disinfectant residual) under this Chapter shall be conducted by a laboratory certified by DHH to do such analysis. Until laboratory certification criteria are developed, laboratories certified for total coliform analysis by DHH are deemed certified for fecal coliform and HPC analysis.

B. Public water systems shall conduct analysis for turbidity in accordance with:

1. SM 2130 B [(Nephelometric Method), *Standard Methods for the Examination of Water and Wastewater*, 19th edition, American Public Health Association (APHA), 800 I Street N.W., Washington, D.C. 20001-3710. Telephone (202)777-2742. Also available from the American Water Works Association (AWWA) and the Water Environment Federation (WEF)];

2. EPA Method 180.1 [(Nephelometric Method), “Methods for the Determination of Inorganic Substances in Environmental Samples”, EPA-600-R-93-100, August 1993. Available from the National Technical Information Service, NTIS PB94-121811. Telephone (800) 553-6847]; or

3. GLI Method 2 [(Great Lakes Instrument Method 2), “Turbidity”, November 2, 1982, GLI International, Inc., 9020 West Dean Road, Milwaukee, Wisconsin 53224. Telephone (414) 355-3601].

C. Public water systems shall conduct analysis for applicable residual disinfectant concentrations in accordance with one of the analytical methods in Table 1. The methods listed in the following table are contained in the *Standards Methods for the Examination of Water and Wastewater*, 19th Edition.

Table 1		
Residual	Methodology	Methods
Free Chlorine	Amperometric Titration	SM 4500-Cl D
	DPD Ferrous Titrimetric	SM 4500-Cl F
	DPD Colorimetric	SM 4500-Cl G
	Syringaldazine (FACTS)	SM 4500-Cl H
Total Chlorine	Amperometric Titration	SM 4500-Cl D
	Amperometric Titration (low level measurement)	SM 4500-Cl E
	DPD Ferrous Titrimetric	SM 4500-Cl F
	DPD Colorimetric	SM 4500-Cl G
	Iodometric Electrode	SM 4500-Cl I
Chlorine Dioxide	Amperometric Titration	SM 4500-ClO ₂ C
	DPD Method	SM 4500-ClO ₂ D
	Amperometric Titration	SM 4500-ClO ₂ E
Ozone	Indigo Method	SM 4500-O ₃ B

1. Particularly for distribution system monitoring, nothing herein shall be construed to prevent a public water system from determining the residual disinfectant concentrations for free chlorine or combined chlorine by use of DPD colorimetric test kits.

D. Public water systems shall conduct analysis for pH using one of the following electrometric methods:

1. SM 4500-H⁺ B (*Standard Methods for the Examination of Water and Wastewater*, 19th edition);
2. EPA Method 150.1 ("Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79/020, March 1983. Available from the NTIS, PB84-128677);
3. EPA Method 150.2 ("Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79/020, March 1983. Available from the NTIS, PB84-128677); or
4. ASTM Method D1293-95 [*Annual Book of ASTM Standards*, 1996, Vol. 11.01, American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959. Telephone (610) 832-9585. Note: Previous version (ASTM Method D1293-84) is also approved and is located in the *Annual Book of ASTM Standards*, 1994, Vols. 11.01].

E. Public water systems shall conduct analysis for temperature using the following thermometric method:

1. SM 2550 B (*Standard Methods for the Examination of Water and Wastewater*, 19th edition).

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5 (5)(6)(17)(20).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1337 (June 2002), amended LR 28:2516 (December 2002).

1107. Calibration/Validation of Turbidimeters

A. General. Calibration, using a turbidity primary standard shall be done in accord with approved methods listed in §1105.B.

B. Calibration, of Turbidimeters. Bench top and continuous monitoring turbidimeters shall be calibrated using a turbidity primary standard at a frequency of no less than once every 90 days. The instruments shall be calibrated in accord with the manufacturer's instructions.

C. Validation of Bench Top Turbidimeters. Calibration, of the bench top turbidimeters shall be validated with state-approved secondary standards each time a sample or set of samples is tested. For turbidity measurements less than 0.2 NTU and the turbidimeter reading is ± 20 percent or more deviation of the state-approved secondary standard, the bench top turbidimeter shall be recalibrated with a turbidity primary standard. For turbidity measurements greater than or equal to 0.2 NTU and the turbidimeter reading is ± 10 percent or more deviation of the state-approved secondary standard, the bench top turbidimeter shall be recalibrated with a turbidity primary standard.

D. Validation of Continuous Monitoring Turbidimeters. Calibration, of the continuous monitoring turbidimeters shall be validated at least once each week by either using a state-approved secondary standard or determining the turbidity of the water flowing out of the continuous monitoring turbidimeter using a bench top turbidimeter. Follow-up actions based upon the validation method selected are as follows:

1. Validation by Use of a State-Approved Secondary Standard-

a. If the state-approved secondary standard is less than 0.2 NTU and the continuous monitoring turbidimeter reading is ± 20 percent or more deviation of the state-approved secondary standard, the continuous monitoring turbidimeter shall be recalibrated with a turbidity primary standard. If the state-approved secondary standard is greater than or equal to 0.2 NTU and the continuous monitoring turbidimeter reading is ± 10 percent or more deviation of the state-approved secondary standard, the continuous monitoring turbidimeter shall be recalibrated with a turbidity primary standard.

2. Validation by Determining the Turbidity of the Water Flowing out of the Continuous Monitoring Turbidimeter Using a Bench Top Turbidimeter

a. For turbidity measurements less than 0.2 NTU and the continuous monitoring turbidimeter reading is ± 20 percent or more deviation from the bench top turbidimeter reading, the continuous monitoring turbidimeter shall be recalibrated with a turbidity primary standard. For turbidity measurements greater than or equal to 0.2 NTU and the continuous monitoring turbidimeter reading is ± 10 percent or more deviation from the bench top turbidimeter reading, the continuous monitoring turbidimeter shall be recalibrated with a turbidity primary standard.

E. Re-Standardization of Secondary Standards. Each time a turbidimeter has been calibrated with a turbidity primary standard, the secondary standards shall be re-standardized. When a secondary standard has been assigned an expiration date by the manufacturer, nothing herein shall be construed as to allow the re-standardization of such secondary standard beyond the expiration date set by the manufacturer.

F. Records of Calibrations/Validations. Records of calibrations/validations on each bench top and continuous monitoring turbidimeter shall be maintained for at least 3 years, as follows:

1. Records of bench top turbidimeters shall include meter location, meter identification, dates of calibration, and the name of the person performing the calibration.

2. Records of continuous monitoring turbidimeters shall include meter location (*e.g.*, filter number), unique meter identification (*e.g.*, model and serial number), dates of calibration, dates of validation, and the name of the person performing the calibration.

G. Records of Re-Standardization of Secondary Standards. Records of any re-standardization of secondary standards shall be maintained for at least 3 years, as follows:

1. Records of re-standardizations done using bench top turbidimeters shall include the value assigned to the secondary standard, date of assignment, meter identification (*e.g.*, model and serial number) which was used to assign the secondary standard its unique value for such meter, manufacturer's expiration date, and the name of the person performing the re-standardization.

2. Records of re-standardizations done using continuous monitoring turbidimeters shall include the value assigned to the secondary standard, date of assignment, meter location (*e.g.*, filter number), meter identification (*e.g.*, model and serial number) which was used to assign the secondary standard its unique value for such meter, manufacturer's expiration date, and the name of the person performing the re-standardization.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5 (5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1337 (June 2002), amended LR 28:2517 (December 2002).

§1109. Calibration_{dra}/Validation of Disinfectant Residual Analyzers

A. Validation of Bench Top Disinfectant Residual Spectrophotometers/Colorimeters. The accuracy of bench top spectrophotometers/colorimeters used for disinfectant residual monitoring, particularly for validation of continuous disinfectant residual monitors, shall be determined at a frequency of no less than once every 90 days by use of a NIST traceable standard solution which has been obtained from an approved source (*e.g.*, Certificate of Analysis by manufacturer). Deviations of ± 10 percent or more shall be cause for calibration_{dra} of the equipment. The instruments shall be calibrated in accord with the manufacturer's instructions. After calibration_{dra}, the instrument's accuracy shall be validated prior to return to service.

B. Validation/Standardization Using Other Methods. For approved methods for disinfectant residual analysis other than spectrophotometric/colorimetric methods, validation/standardization of disinfectant residual analyzers shall be performed in accord with procedures outlined in the particular method [see §1105.C].

C. Validation of Continuous Disinfectant Residual Monitors. The accuracy of residual disinfectant measurements from any continuous disinfectant residual monitor shall be validated weekly. Validation shall be performed by collecting a grab sample from the tubing supplying water to the monitor (*e.g.*, via a tee connection which is normally capped or valved closed) at a location immediately upstream (less than 5 feet) of the continuous disinfectant residual monitor. Such grab sample shall be analyzed using a bench top spectrophotometer/colorimeter which has been calibrated according to §1109.A of this Chapter. If the spectrophotometer/colorimeter reading indicates ± 10 percent or more deviation as compared to the continuous disinfectant residual monitor reading, the cause of the disparity shall be investigated and resolved within five working days. In the meantime, grab samples shall be collected and analyzed every 2 hours as per Section 1125.B of this Chapter. The accuracy of residual disinfectant measurements from any replacement instrument shall be validated prior to service or return to service.

D. Records of Calibrations/Validations. Records of calibrations/validations on each bench top spectrophotometer/colorimeter used for disinfectant residual monitoring and on each continuous disinfectant residual monitor shall be maintained for at least 3 years, as follows:

1. Records of bench top spectrophotometers/colorimeters shall include meter location, meter identification, dates and results of NIST traceable standard solution, dates of calibration_{dra}/validation and the name of the person performing the calibration_{dra}/validation.

2. Records of continuous disinfectant residual monitors shall include meter location, unique meter identification (*e.g.*, model and serial number), dates and results of calibration/validation, and the corrective actions taken when deviations of ± 10 percent or more occur.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5 (5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1338 (June 2002), amended LR 28:2518 (December 2002).

§1110. Calibration_{pH}/Validation of pH Meters

A. pH of water within the water treatment plant shall be conducted using a pH meter having a minimum accuracy of ± 0.2 pH units.

B. Benchtop pH meters used for determining the pH of water within the water treatment plant shall be calibrated at least once each day in accordance with Section 4.a. of SM 4500-H⁺ B (Electrometric pH Method) of the *Standard Methods for the Examination of Water and Wastewater*, 19th Edition, or the manufacturer's specifications.

C. The calibration_{pH} of benchtop pH meters shall be validated with at least one buffer solution each time a series of samples is run and, if necessary, recalibrated in accord with the requirements of Subsection B of this Section.

D. On-line pH meters shall be calibrated_{pH} according to the manufacturer's specifications at a frequency such that the deviation observed between calibrations is typically less than ± 0.2 pH units. The deviation is to be recorded at each calibration by recording the current process pH both before and after calibration. In no case shall calibrations of on-line pH meters be performed at a frequency of less than once each week.

E. Records of calibrations on each pH meter shall be maintained for at least three years.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1195 (June 2004).

§1111. Calibration_{temp}/Validation of Temperature Measuring Devices

A. Water temperature within the water treatment plant shall be measured using a thermometer, thermocouple, or other temperature measuring device having a minimum accuracy of ± 0.5 degrees Celsius (0.5°C).

B. Service thermometers, thermocouples, and other temperature measuring devices used for determining water temperature within the water treatment plant shall be validated at a frequency of once per month using a field thermometer that has been calibrated annually against a NIST certified thermometer. The NIST certified thermometer shall be sent back to the manufacturer for recalibration at least once every three years.

C. Records of validations/calibrations on each temperature measuring device shall be maintained for at least three years.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1340 (June 2002, amended LR 28:2518 (December 2002), amended LR 30:1195 (June 2004).

§1112. Cleaning of Analytical Instrumentation

A. A thorough cleaning of analytical instrumentation (particularly continuous monitoring turbidimeters, disinfectant residual monitors, and pH meters) shall be performed, as necessary, prior to performing any calibration/validation. On a weekly basis, continuous monitoring turbidimeters and continuous disinfectant residual monitors shall be inspected to determine if there is any material or sedimentation in the measuring chambers. Records of such inspection/cleaning shall be kept for at least 3 years and such records shall include meter location (*e.g.*, model and serial number), dates of cleaning, and the name of the person performing the cleaning.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1196 (June 2004).

Subchapter B. Treatment Technique Requirements and Performance Standards

§1113. Treatment Technique Requirements

A. Each supplier using surface water or GWUDISW shall provide multibarrier treatment that meets the requirements of this Chapter and reliably ensures at least:

1. A total of 99.9 percent (3 Log) reduction of *Giardia* cysts through treatment processes including filtration and disinfection.

2. A total of 99.99 percent (4 Log) reduction of viruses through treatment processes including filtration and disinfection.

3. For suppliers serving at least 10,000 individuals, a total of 99 percent (2 Log) removal of *Cryptosporidium* oocysts through treatment processes including filtration.

4. The total reductions to be required by the DHH may be higher and are subject to the source water concentration of *Giardia lamblia*, viruses, and for suppliers serving at least 10,000 individuals, *Cryptosporidium*.

B. Suppliers meeting the requirements of §§1115 and 1119 shall be deemed to be in compliance with the minimum reduction and removal requirements specified in §1113.A of this Chapter.

C. Section 1117 of this Chapter presents requirements for non-filtering systems. All suppliers which use surface water as a source shall provide filtration. On a case by case basis, systems using GWUDISW may not be required to filter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and R.S. 40:5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1340 (June 2002), amended LR 28:2518 (December 2002).

§1115. Filtration Performance Standards

A. All surface water or GWUDISW utilized by a supplier shall be treated using one of the following filtration technologies unless an alternative process has been approved by the DHH.

1. Conventional filtration treatment

2. Direct filtration treatment

3. Slow sand filtration
4. Diatomaceous earth filtration

B. Conventional filtration treatment shall be deemed to be capable of achieving at least 99.7 percent (2.5 Log) removal of *Giardia* cysts, 99 percent (2 Log) removal of *Cryptosporidium* oocysts (for public water systems serving at least 10,000 individuals), and 99 percent (2 Log) removal of viruses when in compliance with operation criteria (Subchapter D of this Chapter) and performance standards (§§ 1115 and 1119 of this Subchapter). Direct filtration treatment and diatomaceous earth filtration shall be deemed to be capable of achieving at least 99 (2 Log) percent removal of *Giardia* cysts, 99 percent (2 Log) removal of *Cryptosporidium* oocysts (for public water systems serving at least 10,000 individuals), and 90 (1 Log) percent removal of viruses when in compliance with operation criteria (Subchapter D of this Chapter) and performance standard (§§ 1115 and 1119 of this Subchapter). Slow sand filtration shall be deemed to be capable of achieving at least 99 (2 Log) percent removal of *Giardia* cysts, 99 percent (2 Log) removal of *Cryptosporidium* oocysts (for public water systems serving at least 10,000 individuals), and 99 (2 Log) percent removal of viruses when in compliance with operation criteria and performance standards.

1. Expected minimum removal credits for public water systems serving at least 10,000 individuals are listed in Table 2 of this Chapter along with the corresponding remaining minimum disinfection log inactivation required.

Table 2 (applicable to systems serving at least 10,000 individuals)						
Treatment Methods						
Filtration Method	Expected Minimum Log Removals			Remaining Minimum Disinfection Log Inactivation Required		
	<i>Giardia</i>	<i>Crypto</i>	Virus	<i>Giardia</i>	<i>Crypto</i>	Virus
Conventional	2.5	2.0	2.0	0.5	-0-	2.0
Direct	2.0	2.0	1.0	1.0	-0-	3.0
Slow Sand	2.0	2.0	2.0	1.0	-0-	2.0
Diatomaceous Earth	2.0	2.0	1.0	1.0	-0-	3.0

2. Expected minimum removal credits for public water systems serving less than 10,000 individuals are listed in Table 3 of this Chapter along with the corresponding remaining minimum disinfection log inactivation required.

Table 3 (applicable to systems serving less than 10,000 individuals)				
Treatment Methods				
Filtration Method	Expected Minimum Log Removals		Remaining Minimum Disinfection Log Inactivation Required	
	<i>Giardia</i>	Virus	<i>Giardia</i>	Virus
Conventional	2.5	2.0	0.5	2.0
Direct	2.0	1.0	1.0	3.0
Slow Sand	2.0	2.0	1.0	2.0
Diatomaceous Earth	2.0	1.0	1.0	3.0

3. The remaining minimum disinfection log inactivation shall not be less than what is required pursuant to Table 2 or 3, as applicable.

C. Conventional Filtration Treatment or Direct Filtration Treatment shall comply with the following performance standards for each treatment plant:

1. The turbidity level of the filtered water shall be equal to or less than 0.3 NTU in at least 95 percent of the measurements taken each month.

EXCEPTION: In the case of public water systems using surface water or GWUDISW as its source of water supply and serving less than 10,000 individuals, the turbidity level of the filtered water shall be equal to or less than 0.5 NTU in at least 95 percent of the measurements taken each month.

2. Filtered water turbidity shall not exceed 1 NTU at any time.

EXCEPTION: In the case of public water systems using surface water or GWUDISW as its source of water supply and serving less than 10,000 individuals, filtered water turbidity shall not exceed 5 NTU at any time.

D. Slow Sand Filtration shall comply with the following performance standards for each treatment plant:

1. The turbidity level of the filtered water shall be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month.

2. The turbidity level of the filtered water shall at no time exceed 5 NTU.

E. Diatomaceous earth filtration shall comply with the following performance standards for each treatment plant:

1. The filtered water turbidity shall be less than or equal to 1 NTU in at least 95 percent of the measurements each month.

2. The turbidity level of representative samples of filtered water shall at no time exceed 5 NTU.

F. An alternative to the filtration technologies specified in §1115.A of this Chapter may be used provided the supplier demonstrates to the DHH that the alternative technology, 1) provides a minimum of 99 percent *Giardia* cyst removal and 99 percent virus removal and 2) for public water systems using surface water or GWUDISW as its source of water supply and serving at least 10,000 individuals, 99 percent (2 Log) *Cryptosporidium* oocyst removal, and 3) meets the turbidity performance standards established in §1115.C of this Chapter. Such alternative filtration technology, in combination with disinfection treatment, shall be shown to consistently achieve a total of no less than 99.9 (3 Log) percent removal and/or inactivation of *Giardia lamblia* cysts and 99.99 (4 Log) percent removal and/or inactivation of viruses. The demonstration shall be based on the results from a prior equivalency demonstration or a testing of a full scale installation that is treating a water with similar characteristics and is exposed to similar hazards as the water proposed for treatment. A pilot plant test of the water to be treated may also be used for this demonstration if conducted with the approval of the DHH. The demonstration shall be presented in an engineering report prepared by a qualified engineer. Additional reporting for the first full year of operation of a new alternative filtration treatment process approved by the DHH, may be required at DHH discretion. The report would include results of all water quality tests performed and would evaluate compliance with established performance standards

under actual operating conditions. It would also include an assessment of problems experienced, corrective actions needed, and a schedule for providing needed improvements.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1340 (June 2002), amended LR 28:2519(December 2002), amended LR 30:1196 (June 2004).

§1117. Non-Filtering Systems

A. General. On a case-by-case basis, DHH may waive filtration requirements for suppliers using GWUDISW. To be considered, non-filtering systems shall conform to the criteria of this Section. All suppliers using surface water shall employ filtration.

B. Source Water Quality to Avoid Filtration

1. To avoid filtration, a system shall demonstrate that either the fecal coliform concentration is less than 20/100 ml and/or the total coliform concentration is less than 100/100 ml in the water prior to the point of disinfectant application in 90 percent of the samples taken during the six previous months. Samples shall be taken prior to blending, if employed.

a. If both fecal and total coliform analysis is performed, only the fecal coliform limit shall be met, under this condition, both fecal and total coliform results shall be reported.

b. Sample analyses methods may be the multiple-tube fermentation technique or the membrane filter technique as described in the *Standard Methods for the Examination of Water and Wastewater*, 19th Edition.

c. Minimum sampling frequencies:

Table 4	
Population	Samples/Week
# 500	1
501-3300	2
3301-10,000	3
10,001-25,000	4
> 25,000	5

d. Also, one coliform sample shall be taken and analyzed each day the turbidity exceeds 1 NTU prior to disinfection.

2. To avoid filtration, the turbidity of the water prior to disinfection cannot exceed 5 NTU based on grab samples collected every 4 hours (or more frequently) that the system is in operation. Continuous turbidity measurement is allowed provided the accuracy of the turbidity measurements are validated at least weekly in accord with §1107.D of this Chapter. If there is a failure in the continuous turbidity monitoring equipment, the system shall collect and analyze a grab sample every 4 hours in lieu of continuous monitoring. Systems shall maintain the results of these turbidity measurements for at least 3 years.

C. Disinfection Criteria to Avoid Filtration

1. To avoid filtration, a system shall demonstrate that it maintains disinfection conditions which inactivate 99.9 percent (3 Log) of *Giardia* cysts and 99.99 percent (4 Log) of viruses everyday of operation except any one day each month. To demonstrate adequate inactivations, the system shall monitor and record the disinfectant used, disinfectant residual at peak hourly flow, disinfectant contact time at peak hourly flow, pH, and water temperature, and use these data to determine if it is meeting the minimum total inactivation requirements of this rule.

a. A system shall demonstrate compliance with the inactivation requirements based on conditions occurring during peak hourly flow. Residual disinfectant measurements shall be taken hourly. Continuous disinfectant residual monitors are acceptable in place of hourly samples provided the accuracy of the disinfectant measurements are validated at least weekly in accord with §1109.B or C, as applicable, of this Chapter. If there is a failure in the continuous disinfectant residual monitoring equipment, the system shall collect and analyze a grab sample every hour in lieu of continuous monitoring. Systems shall maintain the results of disinfectant residual monitoring for at least 3 years.

b. pH and temperature shall be determined daily for each disinfection sequence prior to or at the first customer.

2. To avoid filtration, the system shall maintain a minimum residual of 0.2 mg/L free chlorine or 0.4 mg/L total chlorine entering the distribution system and maintain a detectable residual throughout the distribution system. Performance standards shall be as presented in §1119.B and C of this Chapter.

3. To avoid filtration, the disinfection system shall be capable of assuring that the water delivered to the distribution system is continuously disinfected. This requires:

a. Redundant disinfection equipment with auxiliary power and automatic start up and alarm; or

b. An automatic shut off of delivery of water to the distribution system when the disinfectant residual level drops below 0.2 mg/l free chlorine residual or 0.4 mg/L total chlorine residual.

D. Site Specific Conditions To Avoid Filtration. In addition to the requirement for source water quality and disinfection, systems shall meet the following criteria to avoid filtration: 1) maintain a watershed control program, 2) conduct a yearly on-site inspection, 3) determine that no waterborne disease outbreaks have occurred, 4) comply with the total coliform MCL at least 11 months of the 12 previous months that the system served water to the public and comply on an ongoing basis, 5) comply with Disinfection By-Product(DBP)regulations for total trihalomethanes (TTHM), haloacetic acids (five) [HAA5], bromate, and chlorite, and 6) comply with Maximum Residual Disinfection Level (MRDL)regulations for chlorine, chloramines, and chlorine dioxide

1. Watershed Control Program. A watershed control program for systems using GWUDISW shall include as a minimum the requirements of the Wellhead Protection Program (WHPP), delineated as follows:

a. specify the duties of state agencies, local governmental entities and public water supply systems with respect to the development and implementation of the WHPP;

b. determine the wellhead protection area (WHPA) for each wellhead as defined in 42 U.S.C.A. 300h-7(e) based on all reasonably available hydrogeologic information, groundwater flow, recharge and discharge and other information the State deems necessary to adequately determine the WHPA;

c. identify within each WHPA all potential anthropogenic sources of contaminants which may have any adverse effect on the health of persons, specifically with the goal of minimizing the potential for contamination of

the source water by *Giardia lamblia* cysts, viruses, and, for systems serving at least 10,000 individuals, *Cryptosporidium* oocysts;

d. describe a program that contains, as appropriate, technical assistance, financial assistance, implementation of control measures, education, training and demonstration projects to protect the water supply within WHPAs from such contaminants;

e. present contingency plans for locating and providing alternate drinking water supplies for each public water system in the event of well or wellfield contamination by such contaminants;

f. consider all potential sources of such contaminants within the expected wellhead area of a new water well which serves a public water system; and

g. provide for public participation.

2. On-Site Inspection. An annual on-site inspection is required to evaluate the watershed control program and disinfection facilities. The system shall be reviewed by a qualified engineer for the system's adequacy for producing safe drinking water. The annual on-site inspection shall include as a minimum:

a. review the effectiveness of the watershed control program;

b. review the physical condition and protection of the source intake;

c. review the maintenance program to insure that all disinfection equipment is appropriate and has received regular maintenance and repair to assure a high operating reliability;

d. review improvements and/or additions made to disinfection processes during the previous year to correct deficiencies detected in earlier surveys;

e. review the condition of disinfection equipment;

f. review operating procedures;

g. review data records to assure that all required tests are being conducted and recorded and disinfection is effectively practiced; and

h. identify any needed improvements in the equipment, system maintenance and operation, or data collection.

3. Sanitary Survey. In addition to the above requirements, a sanitary survey shall be performed every 3 years for community water systems and every 5 years for non-community water systems which use GWUDISW without filtration. The sanitary survey shall include:

a. review the condition of finished water storage facilities;

b. determine that the distribution system has sufficient pressure throughout the year;

c. verify that distribution system equipment has received regular maintenance;

- d. review cross connection prevention program, including annual testing of backflow prevention devices;
- e. review routine flushing program for effectiveness;
- f. evaluate the corrosion control program and its impact on distribution water quality;
- g. review the adequacy of the program for periodic storage reservoir flushing;
- h. review practices in repairing water main breaks to assure they include disinfection;
- i. review additions, improvements incorporated during the year to correct deficiencies detected in the initial inspection;
- j. review the operations to assure that any difficulties experienced during the year have been adequately addressed;
- k. review staffing to assure adequate numbers of certified operators are available in accord with LAC 48:V.Chapter 73;
- l. verify that a regular maintenance schedule is followed;
- m. audit systems records to verify that they are adequately maintained; and
- n. review bacteriological data from the distribution system for coliform occurrence, repeat samples and action response.

4. No Disease Outbreaks. To avoid filtration, a system using GWUDISW shall not have been identified as a source of waterborne disease. If such an outbreak has occurred and (in the opinion of DHH) was attributed to a treatment deficiency, the system shall install filtration unless the system has upgraded its treatment to remedy the deficiency to the satisfaction of DHH.

5. Coliform MCL Regulations. To avoid filtration, a system shall have complied with the MCL for Total Coliforms, established in the Total Coliform Rule, for at least 11 out of 12 of the previous months unless DHH determines the failure to meet this requirement was not caused by a deficiency in treatment.

6. DBP Regulations. For a system using GWUDISW to continue using disinfection as the only treatment, the system shall comply with the DBP regulations, including TTHM, HAA5, bromate, and chlorite, as applicable.

7. MRDL Regulations. For a GWUDISW system to continue using disinfection as the only treatment, the system shall comply with the MRDLs for chlorine, chloramines, and chlorine dioxide, as applicable.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40: 4 (A)(8) and 40: 5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1341 (June 2002), amended LR 28:2520 (December 2002).

§1119. Disinfection Performance Standards

A. All surface water or GWUDISW utilized by a supplier shall be provided with continuous disinfection treatment sufficient to ensure that the total treatment process provides inactivation of *Giardia* cysts and viruses, in conjunction with the removals obtained through filtration, to meet the reduction requirements specified in §1113 of this Chapter.

B. Disinfection treatment shall comply with the following performance standards:

1. Water delivered to the distribution system shall contain a disinfectant residual of not less than 0.2 mg/l free chlorine or 0.4 mg/l total chlorine for more than 4 hours in any 24 hour period.

2. The residual disinfectant concentrations of samples collected from the distribution system shall be detectable in at least 95 percent of the samples each month, taken during any two consecutive months. At any sample point in the distribution system, the presence of heterotrophic plate count (HPC) bacteria at concentrations less than 500 colony-forming units per milliliter (cfu/ml) shall be considered equivalent to a detectable disinfectant residual.

C. Determination of Inactivation by Disinfection. Minimum disinfection requirements shall be determined by DHH on a case-by-case basis but shall not be less than those required in Table 2 of §1115.B.1 or Table 3 of §1115.B.2, as applicable, of this Chapter. The desired level of inactivation shall be determined by the calculation of CT values; residual disinfectant concentration ("C") times the contact times ("T") when the pipe or vessel is in operation. Disinfectant contact time shall be determined by tracer studies.

1. The T_{10} value will be used as the detention time for calculating CTs. T_{10} is the detention time at which 90 percent of the flow passing through a vessel is retained within the vessel. Systems conducting tracer studies shall submit a plan to DHH for review and approval prior to the study being conducted. The plan shall identify how the study will be conducted, the tracer to be used, flow rates, etc. The plan shall also identify who will actually conduct the study. Tracer studies are to be conducted according to protocol found in standard engineering texts (such as Levenspiel), or the methodology in EPA's *Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources*, March 1991 Edition (SWTR Guidance Manual).

2. On a case-by-case basis, alternate empirical methods of calculating T_{10} as outlined in the SWTR Guidance Manual may be accepted for vessels with geometry and baffling conditions analogous to basins on which tracer studies have been conducted and results have been published in the SWTR Guidance Manual or the literature.

3. Additional tracer studies shall be conducted by the supplier whenever modifications are made which may impact flow distribution, contact time, or disinfectant distribution.

4. CT values utilized in this evaluation shall be those reported in the SWTR Guidance Manual.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40: 4 (A)(8) and 40: 5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1341 (June 2002), amended LR 28:2522 (December 2002).

§1121. Design Standards

A. All new treatment and disinfection facilities (and any existing treatment and disinfection facilities which undergo substantial renovation) shall be designed and constructed to meet the existing State Sanitary Code as modified by the requirements contained herein.

B. All new filtration facilities for surface water or GWUDISW plants (and any likewise existing filtration facilities which undergo substantial renovation) shall be designed such that each individual filter is constructed with filter-to-waste capability.

C. All new filtration and/or clearwell facilities for surface water or GWUDISW plants (and any likewise existing filtration and/or clearwell facilities which undergo substantial renovation) shall be designed to have one combined filter effluent point prior to clearwell storage. If this is not feasible for existing plants, such as when multiple clearwells already exist, each plant going to its own clearwell shall be designed to have a combined filter effluent point prior to that particular plant's clearwell.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and 40: 5 ((2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1341 (June 2002), amended LR 28:2522 (December 2002).

Subchapter C. Monitoring Requirements

§1123. Filtration Monitoring

A. Source Water Turbidity Monitoring. Each supplier using surface water or GWUDISW as a source of water supply shall monitor the turbidity level of the raw water source by taking and analyzing no less than one grab sample per day. Continuous turbidity monitoring may be substituted provided the accuracy of the measurements are validated weekly in accord with §1107.D of this Chapter. If there is a failure in the continuous turbidity monitoring equipment, the system shall collect and analyze no less than one grab sample per day. Systems shall maintain the results of raw water turbidity monitoring for at least 3 years.

B. Settled Water Turbidity Monitoring

1. Each supplier using surface water as its source of water supply should monitor and record settled water turbidity prior to filtration in each individual treatment train at least once every 4 hours.

2. Each supplier using GWUDISW as its source of water supply should, if filtration is required or otherwise performed, monitor and record settled water turbidity prior to filtration in each individual treatment train at least once every 4 hours.

C. Combined Filter Effluent Turbidity Monitoring. To determine compliance with the performance standards specified in §1115 of this Chapter, each supplier using surface water or GWUDISW shall conduct continuous turbidity monitoring of representative samples of the combined filter effluent prior to clearwell storage during all times that the system is in operation. Combined filter effluent turbidity measurements shall be recorded every 15 minutes. The accuracy of the turbidity measurements from the continuous turbidity monitor shall be validated weekly in accord with §1107.D of this Chapter. If there is a failure in the continuous turbidity monitoring equipment, the system shall collect and analyze a grab sample every 2 hours in lieu of continuous monitoring, but for no more than five working days following the failure of the equipment. Failure to have the continuous monitoring equipment replaced or repaired and put back into continuous service following the five working days allowed herein shall be deemed to constitute a violation of this Chapter. Systems shall maintain the results of combined filter effluent turbidity monitoring for at least 3 years.

EXCEPTION: In the case of public water systems using surface water or GWUDISW and serving less than 10,000 individuals, each supplier shall conduct turbidity monitoring of representative samples of the combined filter effluent, prior to clearwell storage, at least once every 4 hours that the system is in operation. The purpose of such monitoring is to determine compliance with the performance standards specified in

§1115 of this Chapter which is applicable to such systems. Continuous turbidity monitoring may be substituted provided the accuracy of the measurements are validated weekly in accord with §1107.D of this Chapter. If there is a failure in the continuous turbidity monitoring equipment, the system shall collect and analyze a grab sample every 4 hours in lieu of continuous monitoring, but for no more than five working days following the failure of equipment. Systems shall maintain the results of combined filter effluent turbidity monitoring for at least 3 years.

1. In existing treatment plants which may not have a combined filter effluent point prior to clearwell storage or other design limitations, DHH may, on a case-by-case basis, allow turbidity compliance monitoring to be performed at an alternate sampling point which is determined to be representative of the system's filtered water (in accordance with Section 5.2.1 of the SWTR Guidance Manual). Requests to utilize an alternate turbidity monitoring sampling point for compliance monitoring shall be submitted in writing to DHH for review and approval.

2. In existing treatment plants which do not have a combined filter effluent point prior to clearwell storage, have at least 4 or more active filters, and which have been approved by DHH (pursuant to §1123.C.1 of this Chapter) to determine compliance with the turbidity performance standards specified in §1115 of this Chapter by using the average of measurements from each filter effluent shall, when there is a failure in the continuous turbidity monitoring equipment, only be required to collect and analyze a grab sample every 4 hours (in lieu of continuous monitoring and the normal every 2 hour grab sampling requirement specified in §1123.C. of this Chapter), but for no more than five working days following the failure of the equipment. Failure to have the continuous monitoring equipment replaced or repaired and put back into continuous service following the five working days allowed herein shall be deemed to constitute a violation of this Chapter.

D. Slow Sand or Small System Turbidity Monitoring. Suppliers using surface water or GWUDISW and utilizing slow sand filtration or serving fewer than 500 people may reduce turbidity monitoring to one raw water and one combined filter effluent grab sample per day if DHH determines that less frequent monitoring is sufficient to indicate effective filtration performance.

E. Individual Filter Turbidity Monitoring/Additional Actions

1. Monitoring Individual Filters for Turbidity. Public water systems using surface water or GWUDISW as its source of water supply, serves at least 10,000 individuals, and utilizes conventional filtration treatment or direct filtration shall conduct continuous turbidity monitoring for each individual filter. Such systems shall record the results of individual filter monitoring every 15 minutes while the filter is in service. The accuracy of the turbidity measurements from the continuous turbidity monitor shall be validated weekly in accord with §1107.D of this Chapter. If there is a failure in the continuous turbidity monitoring equipment, the system shall conduct grab sampling every 4 hours in lieu of continuous monitoring, but for no more than five working days following the failure of equipment. Failure to have the continuous monitoring equipment replaced or repaired and put back into continuous service following the five working days allowed herein shall be deemed to constitute a violation of this Chapter. Systems shall maintain the results of individual filter monitoring for at least 3 years.

a. When a particular water treatment plant is not configured to allow individual filter turbidity monitoring (*e.g.*, Greenleaf Filter Plants) as required under Paragraph 1 of this Subsection, the system shall consult with DHH on a case-by-case basis to obtain approval of a plant specific alternative monitoring plan which is deemed to comply with the intent of individual filter turbidity monitoring, as far as is possible.

2. Triggered Actions Based on Individual Filter Results. Refer to §1135.E.1 of this Chapter for additional actions which may be triggered dependent upon the results of individual filter turbidity monitoring. Compliance deadlines for performing such additional actions are also contained in §1135.E.1 of this Chapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40: 4 (A)(8) and 40: 5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1342 (June 2002), amended LR 28:2522 (December 2002).

§1125. Disinfection Monitoring

A. CT Parameters Monitoring. To determine compliance with disinfection inactivation requirements specified in Table 2 of §1115.B.1 or Table 3 of §1115.B.2, as applicable, of this Chapter, each supplier shall develop and conduct a monitoring program to measure those parameters that affect the performance of the disinfection process. This shall include but not be limited to:

1. temperature of the disinfected water at each residual disinfectant concentration sampling point;
2. pH(s) of the disinfected water (if free chlorine is used as a disinfectant) at each free chlorine residual disinfectant concentration sampling point;
3. the disinfectant contact time(s) at peak hourly flow at each residual disinfectant concentration sampling point;
4. the residual disinfectant concentrations before or at the first customer during peak hourly flow; and
5. if the system uses more than one point of disinfectant application before the first customer, the system must determine the parameters identified in Paragraphs 1-4 of this Subsection for each individual disinfection segment immediately prior to the next point of disinfectant application during peak hourly flow so that a cumulative CT value can be determined before the treated water reaches the first customer. (Note: If the treatment plant uses its own finished water for potable purposes, the first customer may be the treatment plant itself.)

B. Disinfectant Residual Monitoring at Plant. To determine compliance with the performance standards specified in §1115 or §1119 of this Chapter, the disinfectant residual concentrations of the water being delivered to the distribution system shall be measured and recorded continuously. The accuracy of disinfectant measurements obtained from continuous disinfectant monitors shall be validated at least weekly in accord with §1109.B or C, as applicable, of this Chapter. If there is a failure of continuous disinfectant residual monitoring equipment, grab sampling every 2 hours shall be conducted in lieu of continuous monitoring, but for no more than five working days following the failure of the equipment. Failure to have the continuous monitoring equipment replaced or repaired and put back into continuous service following the five working days allowed herein shall be deemed to constitute a violation of this Chapter. Systems shall maintain the results of disinfectant residual monitoring for at least 3 years.

C. Small System Disinfectant Residual Monitoring at Plant. Suppliers serving fewer than 3300 people may collect and analyze grab samples of the water being delivered to the distribution system for disinfectant residual determination each day in lieu of the continuous monitoring, in accordance with Table 5 of this Chapter, provided that any time the residual disinfectant falls below 0.2 mg/l free chlorine or 0.4 mg/l total chlorine, the supplier shall take a grab sample every 2 hours until the residual concentrations is equal to or greater than 0.2 mg/l free chlorine or 0.4 mg/l total chlorine.

Table 5 (applicable to systems serving less than 3,300 individuals)	
Disinfectant Residual Sampling	
System Population	Samples/Day
# 500	1
501-1,000	2
1,001-2,500	3
2,501-3,300	4

D. Disinfectant Residual Monitoring in Distribution System. The residual disinfectant concentrations shall be measured at least at the same points in the distribution system and at the same time that samples for total coliforms are collected.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40: 4 (A)(8) and R.S. 40: 5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1342 (June 2002), amended LR 28:2523 (December 2002).

§1127. Disinfection Profiling

A. All public water systems using surface water or GWUDISW as its source of water supply and serving at least 10,000 individuals shall perform a disinfection profile of its disinfection practice on a continuous basis.

1. Any system that meets the criteria of Subsection A of this Section shall perform monitoring on each day of operation to determine the total logs of inactivation of *Giardia lamblia* cysts, based upon the CT_{99.9} (3-Log) values in Appendix E of the SWTR Guidance Manual, as appropriate, through the entire treatment plant. Any system that uses either chloramines or ozone for primary disinfection shall additionally calculate the total logs of inactivation of viruses for each day of operation, based upon the CT_{99.99} (4-Log) values in Appendix E of the SWTR Guidance Manual. Systems with more than one point of disinfectant application shall conduct monitoring for each disinfection segment. The following parameters shall be monitored:

a. the temperature of the disinfected water at each disinfectant residual concentration sampling point during peak hourly flow;

b. if the system uses free chlorine, the pH of the disinfected water at each free chlorine residual disinfectant concentration sampling point during peak hourly flow;

c. the disinfectant contact time(s) ("T") at peak hourly flow at each residual disinfectant concentration sampling point;

i. contact time(s) determined through actual tracer studies shall be used [not theoretical contact time(s) using baffling factors].

d. the residual disinfectant concentration(s) ("C") of the water before or at the first customer during peak hourly flow (Note: If the treatment plant uses its own finished water for potable purposes, the first customer may be the treatment plant itself.); and

e. if the system uses more than one point of disinfectant application before the first customer, the system must determine the parameters identified in Subparagraphs a-d of this Paragraph for each individual disinfection segment immediately prior to the next point of disinfectant application during peak hourly flow so that a cumulative CT value can be determined before the treated water reaches the first customer. (Note: If the treatment plant uses its own finished water for potable purposes, the first customer may be the treatment plant itself.)

B. In addition, systems subject to the requirements of Subsection A of this Section shall compute their daily total logs of inactivation utilizing a computer spread sheet format/formulas approved by DHH. The system shall retain printed disinfection profile data as daily individual spreadsheets (containing the monitoring data, CT computation, and total log inactivation data) and in monthly/yearly graphical profile form for review as part of sanitary surveys conducted by DHH.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40: 4 (A)(8) and R.S. 40: 5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:2524 (December 2002).

§1129. Disinfection Practice Changes

A. Suppliers using surface water or GWUDISW as the source of water supply which decide to make a significant change to its disinfection practice shall submit plans and specifications to DHH for review and approval (in accord with the requirements of §105 of this Part) prior to making such change. Significant changes to disinfection practice are:

1. any changes to the point of disinfection;
2. any changes to the disinfectant(s) used in the treatment plant;
3. any changes to the disinfection process; or,
4. any disinfection practice modification which may lower the system's ability to comply with the required minimum log inactivation attributable to disinfection as listed in Table 2 of §1115.B.1 or Table 3 of §1115.B.2, as applicable, of this Chapter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40: 4 (A)(8) and R.S. 40: 5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:2525 (December 2002).

Subchapter D. Operation

§1131. Operating Criteria

A. All treatment plants utilizing surface water or GWUDISW shall be operated by certified operators in accord with LAC 48:V.Chapter 73.

B. Filtration facilities shall be operated in accordance with the following requirements:

1. Conventional and direct filtration treatment plants shall be operated at flow rates not to exceed 3 gallons per minute per square foot (gpm/sq ft) for gravity filters. In any instance when pressure filters have been approved

by DHH as the primary turbidity removal mechanism (see §323 of this Part), filtration rates shall not exceed 2 gpm/sq ft.

2. Slow sand filters shall be operated at filtration rates not to exceed 0.10 gallons per minute per square foot. The filter bed shall not be dewatered except for cleaning and maintenance purposes.

3. Diatomaceous earth filters shall be operated at filtration rates not to exceed 1.0 gallon per minute per square foot.

4. In order to obtain approval for higher filtration rates than those specified in this Section, the supplier shall demonstrate to DHH that the filters can achieve an equal degree of performance.

5. Filtration rates shall be increased gradually when placing filters back into service following backwashing or any other interruption in the operation of the filter.

6. In any instance when pressure filters have been approved by DHH as the primary turbidity removal mechanism (see §323 of this Part), such filters shall be physically inspected and evaluated annually (not sooner than 120 calendar days from any previous inspection/evaluation) for such factors as media condition, mudball formation, and short circuiting. A written record of the inspection shall be maintained at the treatment plant.

C. Disinfection facilities shall be operated in accordance with the following requirements:

1. A supply of chemicals necessary to provide continuous operation of disinfection facilities shall be maintained as a reserve or demonstrated to be available under all conditions and circumstances.

2. An emergency plan shall be developed prior to and implemented in the event of disinfection failure to prevent delivery to the distribution system of any undisinfected or inadequately disinfected water. The plan shall be posted in the treatment plant or other place readily accessible to the plant operator.

3. System redundancy and changeover systems shall be maintained and kept operational at all times to ensure no interruption in disinfection.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40: 4 (A)(8), R.S. 40: 5 (2)(3)(5)(6)(17)(20) and R.S. 40: 1148.

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:2525 (December 2002).

Subchapter E. Reporting

§1133. DHH Notification

A. The supplier shall notify DHH by telephone or other equally rapid means as soon as possible but no later than 24 hours whenever:

1. The turbidity of the combined filter effluent as monitored exceeds 1.0 NTU at any time for conventional filtration treatment or direct filtration treatment.

EXCEPTION: In the case of public water systems using surface water and serving less than 10,000 individuals, whenever the turbidity of the combined filter effluent as monitored exceeds 5.0 NTU at any time for conventional filtration treatment or direct filtration treatment.

2. More than two consecutive 4 hour monitoring periods of the combined filter effluent show an exceedance of 0.5 NTU for conventional filtration treatment or direct filtration treatment.

EXCEPTION: In the case of public water systems using surface water and serving less than 10,000 individuals, more than two consecutive 4 hour monitoring periods of the combined filter effluent show an exceedance of 1.0 NTU for conventional filtration treatment or direct filtration treatment.

3. The turbidity of the combined filter effluent as monitored exceeds 1.0 NTU for slow sand filtration or diatomaceous earth filtration.

4. The turbidity of the combined filter effluent as monitored exceeds the maximum level set by DHH for the particular alternative filtration technology approved by DHH pursuant to §1115.F of this Chapter.

5. There is a failure to maintain a minimum disinfectant residual of 0.2 mg/l free chlorine or 0.4 mg/l total chlorine in the water being delivered to the distribution system and whether or not the disinfectant residual was restored to at least 0.2 mg/l free chlorine or 0.4 mg/l total chlorine within 4 hours.

6. An event occurs which may affect the ability of the treatment plant to produce a safe, potable water including, but not limited to, spills of hazardous materials in the watershed and unit treatment process failures.

7. A waterborne disease outbreak potentially attributable to the water system has occurred and is discovered by the supplier.

B. In accord with the requirement of §321 of this Part, the supplier shall notify DHH by telephone or other equally rapid means as soon as possible but no later than 48 hours whenever:

1. Non-compliance with a combined filter effluent turbidity standard occurs during any one particular month, *e.g.*, anytime a minimum number of individual turbidity measurements above the turbidity standard will cause the system to exceed its 5 percent monthly allowance. [For example, in a 30 calendar day month and a plant operating 24 hours per day a total of 180 combined filter effluent turbidity compliance measurements are to be taken per month. Whenever 10 compliance measurements exceed the turbidity standard applicable to such system, the system is in violation of its treatment technique requirement ($10 \div 180 \times 100 = 5.5$ percent) and must notify DHH as soon as possible but not later than 48 hours of the violation.]

AUTHORITY NOTE: Promulgated in accordance with R.S. 40: 4 (A)(8) and 40: 5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:2525 (December 2002).

§1135. Monthly Report

A. General. Each supplier with a surface water or GWUDISW treatment facility shall submit a monthly written report on the operation of each facility to the DHH by the tenth day of the following month. Such report shall be signed by a certified operator of the public water system.

B. Combined Filter Effluent Turbidity Results. The monthly report shall include the following results of samples collected from the combined filter effluent (or from an alternate compliance sampling point as approved by DHH on a case-by-case basis):

1. The highest individual turbidity measurement determined within each 4 hour monitoring period for each day that the system is in operation. Suppliers operating treatment facilities continuously shall report the highest individual turbidity measurement for each of the following 4 hour monitoring periods:

- a. 12:01 am - 4:00 am
- b. 4:01 am - 8:00 am
- c. 8:01 am - 12:00 pm (noon)
- d. 12:01 pm - 4:00 pm
- e. 4:01 pm - 8:00 pm
- f. 8:01 pm - 12:00 am (midnight)

NOTE: Suppliers which do not operate their treatment facilities continuously shall utilize these same time periods, as applicable, for reporting purposes. Times when there is no combined filter effluent available for monitoring, such as when the plant is not in operation, shall also be recorded by the supplier and such events shall be clearly identified and reported on the monthly report.

2. The number and percent of turbidity measurements reported under Paragraph 1 of this Subsection which are less than or equal to the performance standard specified for each filtration technology in §1115 of this Chapter, or as required for an alternative filtration technology.

3. The maximum daily raw water turbidity.

4. For public water systems using surface water or GWUDISW which serve at least 10,000 individuals and utilize conventional or direct filtration treatment, the monthly report shall advise whether or not combined filter effluent turbidity monitoring has been conducted continuously and whether or not the measurements were recorded every 15 minutes. The monthly report shall also indicate the date and time when there is a failure in the continuous turbidity monitoring equipment or plant out of service as well as the date and time that such equipment/plant was placed back into service.

5. At the special request of the state health officer on a case-by-case basis, the supplier shall also provide an additional report listing the date and value of any other combined filter effluent turbidity measurement recorded by the supplier which exceeded the performance levels specified in §1115 of this Chapter and any corresponding raw water turbidity levels.

C. Disinfection Monitoring Results

The monthly report shall include the following disinfection monitoring results.

1. The date and duration of each instance when the disinfectant residual in water supplied to the distribution system is less than 0.2 mg/l free chlorine or 0.4 mg/l total chlorine and when the DHH was notified of the occurrence.

2. The following information on samples taken from the distribution system:

- a. The number of samples where the disinfectant residual is measured.
- b. The number of samples where only the heterotrophic plate count (HPC) is measured.
- c. The number of measurements with no detectable disinfectant residual and no HPC is measured.
- d. The number of measurements with no detectable disinfectant residual and HPC is greater than 500 colony forming units per milliliter.
- e. The number of measurements where only HPC is measured and is greater than 500 colony forming units per milliliter.

D. Explanation of Cause of Violation. The monthly report shall include a written explanation of the cause of any violation of performance standards specified in §§1115, 1117, or 1119 and operating criteria specified in §1131 of this Chapter.

E. Individual Filter Turbidity Results/Additional Actions

1. For public water systems using surface water or GWUDISW which serve at least 10,000 individuals and utilizes conventional or direct filtration treatment, the monthly report shall advise whether or not individual filter turbidity monitoring has been conducted continuously and whether or not the measurements were recorded every 15 minutes. Such systems shall additionally report individual filter turbidity measurement results taken only if measurements demonstrate one or more of the following four exceedance conditions:

a. For any individual filter that has a measured turbidity level of greater than 1.0 NTU in two consecutive measurements taken 15 minutes apart, the system shall report the filter number, the turbidity measurement, and the date(s) on which the exceedance occurred. In addition, the system shall either produce a filter profile for the filter within 7 days of the exceedance (if the system is not able to identify an obvious reason for the abnormal filter performance) and report that the profile has been produced or report the obvious reason for the exceedance.

b. For any individual filter that has a measured turbidity level of greater than 0.5 NTU in two consecutive measurements taken 15 minutes apart at the end of the first 4 hours of continuous filter operation after the filter has been backwashed or otherwise taken off-line, the system shall report the filter number, the turbidity, and the date(s) on which the exceedance occurred. In addition, the system shall either produce a filter profile for the filter within 7 days of the exceedance (if the system is not able to identify an obvious reason for the abnormal filter performance) and report that the profile has been produced or report the obvious reason for the exceedance.

c. For any individual filter that has a measured turbidity level of greater than 1.0 NTU in two consecutive measurements taken 15 minutes apart at any time in each of three consecutive months, the system shall report the filter number, the turbidity measurement, and the date(s) on which the exceedance occurred. In addition, the system shall conduct a self-assessment of the filter within 14 days of the exceedance and report that the self- assessment was conducted. The self-assessment shall consist of at least the following components: an in-depth evaluation of filter performance, including analysis of historical filtered water turbidity from the filter; development of a filter

profile; identification and prioritization of factors limiting filter performance; evaluation of the applicability of corrections; and, preparation of a filter self-assessment report.

d. For any individual filter that has a measured turbidity level of greater than 2.0 NTU in two consecutive measurements taken 15 minutes apart at any time in each of two consecutive months, the system shall report the filter number, the turbidity measurement, and the date(s) on which the exceedance occurred. In addition, the system shall arrange for the conduct of a comprehensive performance evaluation (CPE) by DHH or a third party approved by DHH no later than 30 days following the exceedance and have the evaluation completed and submitted to DHH no later than 90 days following the exceedance. For systems experiencing multiple exceedances, only one CPE is adequate until that CPE has been completed and the appropriate corrective actions taken.

i. This CPE shall be considered a compliance CPE; thus, either or both of the following shall be considered a violation(s) of this Chapter:

(a.) failure to respond in writing to performance-limiting factors identified in the CPE within 45 days after receipt of the report, indicating how and on what schedule the system will address performance-limiting factors noted in the report, or

(b.) failure to correct the performance-limiting factors identified in the CPE within a time schedule acceptable to DHH.

2. When a filter profile/obvious reason, self-assessment, or CPE has been triggered by the turbidity results of an individual filter, the following additional information for such filter shall be reported in the monthly report:

a. Data recorded relative to the occurrence of a failure in the continuous turbidity monitoring equipment for the affected individual filter or filter out of service conditions, the identity of the individual filter, the date and time of such equipment failure or out of service conditions as well as the date and time that the equipment and/or filter was placed back into service.

AUTHORITY NOTE: Promulgated in accordance with R.S 40: 4 (A)(8) and R.S. 40: 5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:2526 (December 2002).

§1137. Disinfection Profiling Report

A. Public water systems subject to the requirements of §1127.A of this Chapter shall submit to DHH a printed report on the initial 12 consecutive months of disinfection profiling data (including daily individual spreadsheets containing the monitoring data, CT computation, and total log inactivation data) and in monthly/yearly graphical profile form as required under §1127 of this Chapter. This disinfection profiling report is due no later than February 15, 2004.

B. On a case-by-case basis, DHH may accept existing operational data in lieu of the requirements of Subsection A of this Section if DHH determines that such data is substantially equivalent to data required to be collected under §1127 of this Chapter. Such data shall be representative of inactivation through the entire treatment plant and not just of certain treatment segments.

C. Following the submittal of the initial 12 consecutive month period report required under Subsection A of this Section, nothing herein shall be construed to prohibit DHH from requiring the public water system to submit a more current disinfection profiling data set on a case-by-case basis (*e.g.*, when a significant change to the disinfection practice is proposed, etc.).

AUTHORITY NOTE: Promulgated in accordance with R.S. 40: 4 (A)(8) and R.S. 40: 5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:2527 (December 2002).

Subchapter F. Public Notification

§1139. Consumer Notification

A. Treatment Technique/Performance Standard Violations. The supplier shall notify persons served by the system whenever there is a failure to comply with the treatment technique requirements specified in §1113 or performance standards specified in §§1115, 1117, or 1119 of this Chapter. The notification shall be given in a manner approved by the DHH, and shall include the following mandatory language:

1. *"The La. Department of Health and Hospitals (DHH) sets drinking water standards and has determined that the presence of microbiological contaminants are a health concern at certain levels of exposure. If water is inadequately treated, microbiological contaminants in that water may cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. DHH has set enforceable requirements for treating drinking water to reduce the risk of these adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. Drinking water which is treated to meet DHH requirements is associated with little to none of this risk and should be considered safe."*

2. When there is a failure to comply with a treatment technique requirement or performance standard as required in Subsection A of this Section, the supplier shall provide public notification in a daily or weekly newspaper serving the area as soon as possible but no later than 14 days after the violation or failure. Where newspaper notice is not feasible for a non-community water system, continuous posting may be substituted; however, such notice shall remain posted for a minimum of at least 7 days. In addition to newspaper notice, a notice shall also be provided to the consumers by direct mail or hand delivery within 45 days after the violation or failure.

B. Monitoring Violations. The supplier shall notify persons served by the system in the manner approved by DHH whenever there is a failure to comply with the monitoring requirements specified in §§1123 or 1125 of this Chapter. When there is a failure to comply with the monitoring requirements specified in §§1123 or 1125 of this Chapter, the supplier shall provide public notification in a daily or weekly newspaper serving the area within 3 months of the violation or failure. Where newspaper notice is not feasible for a non-community water system, continuous posting in conspicuous places within the area served by the system may be substituted; however, such notice shall remain posted for a minimum of at least 7 days. In addition to newspaper notice, a notice shall also be provided to the consumers by direct mail or hand delivery within 3 months after the violation or failure.

C. Acute Violations. When:

1. an event occurs which may affect the ability of the treatment plant to produce safe, potable water as specified under §1133.A.6 of this Chapter;

2. a waterborne disease outbreak occurs as specified under §1133.A.7 of this Chapter;
3. the combined filter effluent turbidity level exceeds 5.0 NTU; or,
4. other conditions/violations which are deemed by the state health officer, acting personally, as posing an acute risk to human health exist or occur;
5. the supplier shall furnish a notice to radio and television stations serving the area as soon as possible but not later than 24 hours after awareness of the incident by the supplier. The supplier shall also provide public notification in a daily or weekly newspaper serving the area as soon as possible but no later than 14 days after the violation or failure. In addition to newspaper notice, a notice shall also be provided to the consumers by direct mail or hand delivery within 45 days after the violation or failure.

EXCEPTION: Where furnishing a notice to radio and television stations, newspaper notice, or mailing is deemed not feasible for a non-community water system, continuous posting may be substituted; however, such notice shall remain posted for a minimum of at least 7 days.

D. Public Notice Verification. Systems required to provide public notification shall otherwise be required to comply with the requirements of §313 of this Part, including, but not limited to, submission of public notice verification to the State Health Officer within 10 days subsequent to the completion of public notification.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4 (A)(8) and 40:5 (2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:2527 (December 2002).

Chapter 13. Stage I Disinfectants and Disinfection Byproducts Rule

Subchapter A. General

§1301. General

A. Pursuant to the definition of National Primary Drinking Water Regulations and the provisions of §377 of this Part, the Department of Health and Hospitals (DHH) Office of Public Health (OPH) adopts by reference the United States Environmental Protection Agency (USEPA) federal Disinfectants and Disinfection Byproducts Rule (D/DBPR) as published in the *Federal Register* dated December 16, 1998 (Volume 63, Number 241, pages 69389 through 69476). In addition, under §377 of this Part, DHH-OPH also adopted by reference certain USEPA technical corrections to the federal D/DBPR. The applicable technical corrections were published in the *Federal Register* dated January 16, 2001 (Volume 66, Number 10, pages 3769 through 3780) and in the *Federal Register* dated February 12, 2001 (Volume 66, Number 29, page 9903). The regulations in this Chapter are promulgated in order to clarify the State's discretionary decisions allowed by the federal requirements.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1196 (June 2004).

Subchapter B. Disinfection Byproduct (DBP) Precursor Control

§1303. Applicability

A. The requirements of this Subchapter shall only be applicable to public water systems whose source of water is surface water or ground water under the direct influence of surface water (GWUDISW) which employ conventional filtration treatment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1196 (June 2004).

§1305. Monthly TOC Monitoring/Reporting

A. Public water systems meeting §1303.A applicability requirements of this Subchapter shall submit the results of their paired (source water and treated water) total organic carbon (TOC) samples (which have been collected for compliance determination in accord with the system's approved D/DBPR monitoring plan) to the state health officer monthly for each individual treatment plant. In addition, the result of source water alkalinity sampling conducted at the same time as the source water TOC sample shall also be submitted to the state health officer monthly for each individual treatment plant. The actual monthly TOC percent removal and the removal ratio (reported to two significant figures past the decimal point) shall be calculated in accord with 40 CFR 141.135(c) and indicated on the form. All results for each particular plant shall be on a report form approved by the state health officer. Such report shall specifically be provided to the OPH District Engineering office which has jurisdictional oversight of the public water system within 10 days following the end of each calendar month.

B. When monthly TOC percent removal calculations performed under Subsection A of this Section result in a negative number (indicative of having a higher level of TOC in treated water than in source water), a "0" percent removal shall be reported for that particular paired sample set instead of the negative number. If this should happen, OPH recommends that an additional paired sample set of TOC samples be collected later in that same month. If the system chooses to collect an additional paired sample set of TOC samples during that same month, the system shall mathematically average the "0" result of the first paired sample set with the result of the second paired sample set and report such average as the monthly TOC percent removal achieved on the monthly TOC report form. If the system does not choose to collect an additional paired sample set of TOC samples during that same month, the system shall report a "0" percent removal achieved on the monthly TOC report form.

C. Plant sites having multiple treatment trains shall perform TOC paired monitoring on each treatment train and report the results of each separate treatment train on its own, individual, and properly identified TOC monthly operating report. The actual monthly TOC percent removal and the removal ratio (reported to two significant figures past the decimal point) for the entire plant site shall be determined by performing a flow-weighted average using the results from each individual treatment train. Flow-weighted averaging shall be based upon the flows at the moment in time that the samples are collected. The percent flow attributed to each treatment train shall be reported and shown in the flow-weighted average calculation formula.

1. On a case-by-case basis, a system may apply to DHH-OPH for approval of the use of a flow-weighted sample composite of all treatment trains in lieu of individual TOC analyses of each individual treatment train. The flow-weighted sample shall be composited by laboratory personnel using aliquots from individual samples collected from each treatment train. Flow-weighted averaging shall be based upon the flows at the moment in time that the samples are collected. Each sample composite shall consist of aliquots from no more than five different treatment trains. Each laboratory report of a sample composite shall identify the specific treatment trains associated with the composited sample.

2. On a case-by-case basis, a system may apply to DHH-OPH for a waiver allowing monitoring of only one treatment train at a facility having multiple treatment trains if the system can demonstrate consistency in TOC sample results between each of the different treatment trains located at the facility. If such waiver is granted, it shall

be stipulated therein that the waiver shall automatically cease if any treatment changes are made which may affect the continued consistency between TOC sample results between the various treatment trains.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1196 (June 2004).

§1307. Quarterly TOC Report

A. At the end of each calendar quarter, public water systems meeting §1303(A) applicability requirements of this Subchapter shall submit a quarterly TOC report to the state health officer for each plant site. Particularly, after 12 consecutive months of TOC compliance monitoring have occurred, the system shall, following the end of each calendar quarter, calculate the running annual TOC removal ratio average using the previous 12 months of monthly TOC removal ratios as the basis. [*For example*, the report for the 4th calendar quarter of 2004 (required to be submitted no later than January 10, 2005) will consist of the annual average removal ratio determined from the 12 monthly removal ratios reported from each of the then 12 preceding months, *i.e.*, January through December 2004. The report for the 1st calendar quarter 2005 (required to be submitted no later than April 10, 2005) will consist of the annual average removal ratio determined from the 12 monthly removal ratios reported from each of the then preceding 12 months, *i.e.*, April 2004 - March 2005. The report for the 2nd calendar quarter 2005 (required to be submitted no later than July 10, 2005) will consist of the annual average removal ratio determined from the 12 monthly removal ratios reported from each of the then preceding 12 months, *i.e.*, July 2004 - June 2005. The report for the 3rd calendar quarter 2005 (required to be submitted no later than October 10, 2005) will consist of the annual average removal ratio determined from the 12 monthly removal ratios reported from each of the then preceding 12 months, *i.e.*, October 2004 - September 2005, etc.] The quarterly TOC report shall be on a report form approved by the state health officer. Such report shall specifically be provided to the OPH District Engineering office which has jurisdictional oversight of the public water system within 10 days following the end of each calendar quarter.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1197 (June 2004).

§1309. Step 2 Bench-Scale (jar) or Pilot-Scale Testing

A. Water systems meeting §1303(A) applicability requirements of this Subchapter which cannot achieve Step 1 TOC removal requirements at any time following 12 months of paired TOC monitoring shall submit an application to the state health officer for approval of alternative minimum (Step 2) TOC removal requirements. Such application shall be submitted within three months of the failure to achieve the Step 1 TOC removal requirements specified in 40 CFR 141.135(b)(2). The application shall include the results of bench-scale(jar) or pilot-scale testing conducted in accordance with the applicable provisions of §377 of this Part, specifically, 40 CFR 141.135(b)(4). The system shall conduct bench-scale(jar) or pilot-scale testing at a frequency of no less than once per calendar quarter for at least one year (beginning from the time of failure to achieve Step 1 TOC removal requirements) so that seasonal changes in raw water quality may be assessed and accounted for.

B. For a system which voluntarily completed 12 months of TOC monitoring prior to the applicable federal compliance date of the rule for the particular system (*i.e.*, performed pre-compliance paired TOC/alkalinity monitoring to determine whether Step 1 TOC removals could be met before the compliance date of the rule) and then determines in the first 12 months after the federal compliance date that it is not able to meet the Step 1 TOC removal requirements and therefore must apply for alternative minimum TOC removal (Step 2) requirements, the state health officer may make the Step 2 requirements retroactive for the purpose of determining compliance.

1. Pursuant to the requirements of Subsection A of this Section, at least one Step 2 TOC bench-scale(jar) or pilot-scale test is required to be performed per calendar quarter. When the state health officer agrees to make the Step 2 TOC removal requirements retroactive in accord with the requirements of Subsection B of this Section, the Step 2 TOC removal requirements shall be applied retroactively by the equivalent calendar quarter. [For example, Step 2 TOC removal requirements determined during the first calendar quarter of 2005 (for applicable surface water systems serving less than 10,000 persons) shall retroactively be applied as the TOC requirement to the first calendar quarter of 2004; Step 2 TOC removal requirements determined during the second calendar quarter of 2005 shall retroactively be applied as the TOC requirement to the second calendar quarter of 2004; Step 2 TOC removal requirements determined during the third calendar quarter of 2005 shall retroactively be applied as the TOC requirement to the third calendar quarter of 2004; and, Step 2 TOC removal requirements determined during the fourth calendar quarter of 2005 shall retroactively be applied as the TOC requirement to the fourth calendar quarter of 2004.]

C. For those systems which may be achieving Step 1 removals during 2002 and 2003 (for applicable systems serving 10,000 or more persons) or during 2004 and 2005 (for applicable systems serving less than 10,000 persons) and then, for whatever reason, all of a sudden cannot achieve Step 1 removals in 2004 or later (for applicable systems serving 10,000 or more persons) or 2006 or later (for applicable systems serving less than 10,000 persons), Step 2 bench-scale (jar) or pilot-scale testing results may then be applied to the three months of the quarter in which the Step 2 bench-scale (jar) or pilot-scale testing is performed and retroactively to the three months of the prior calendar quarter (six months total).

1. The raw water quality characteristics of any Step 2 bench-scale (jar) or pilot-scale testing must be substantially equivalent to the raw water quality characteristics when the problematic Step 1 monitoring was performed. At its discretion, DHH-OPH is authorized to require a system to perform a new Step 2 bench-scale (jar) or pilot-scale testing particularly when it is determined that the Step 1 and Step 2 raw water quality characteristics are not substantially equivalent.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1197 (June 2004).

§1311. Alternative Compliance Criteria

A. When a public water system meeting §1303.A applicability requirements uses an alternative compliance criteria (ACC) on its monthly TOC monitoring report, the following numbering key shall be employed to identify the specific alternative compliance criteria used:

1. ACC #1—source water TOC level is less than 2.0 mg/L.
2. ACC #2—treated water TOC level is less than 2.0 mg/L.
3. ACC #3—source water TOC is less than 4.0 mg/L and source water alkalinity is greater than 60mg/L (as CaCO₃) and either:
 - a. the TTHM and HAA5 running annual averages are no greater than 0.040 mg/L and 0.030 mg/L, respectively, or
 - b. prior to the effective date for compliance, the system has made a clear and irrevocable financial commitment not later than the effective date for compliance to use technologies that will limit the levels of TTHMs and HAA5s to no more than 0.040 mg/L and 0.030 mg/L, respectively.
4. ACC #4—the TTHM and HAA5 running annual averages are no greater than 0.040 mg/L, respectively, and the system uses only chlorine for primary disinfection and maintenance of a residual in the distribution system.
5. ACC #5—source water specific ultraviolet absorbance (SUVA) prior to any treatment is less than or equal to 2.0 L/mg-m.

6. ACC #6—finished water SUVA is less than or equal to 2.0 L/mg-m.
7. ACC #7—for systems practicing enhanced softening that cannot achieve the Step 1 TOC removal requirements and softening results in lowering the treated water alkalinity to less than 60 mg/L (as CaCO₃).
8. ACC #8—for systems practicing enhanced softening that cannot achieve the Step 1 TOC removal requirements and softening results in removing at least 10 mg/L of magnesium hardness (as CaCO₃).

B. When ACC #6 is utilized, the water samples for dissolved organic carbon (DOC) and ultraviolet absorption at a wavelength of 254 nanometers (UV₂₅₄) shall be collected at a point in the treatment plant after coagulation, flocculation, and sedimentation have occurred as well as at a point prior to the addition of any oxidant or disinfectant to the water. Such samples shall also be collected no later than the point at which samples for combined filter effluent turbidity are collected. If the plant is designed such that these monitoring parameters can not be met, or if ferric salts are used for coagulation in the clarification process, then a source water sample, prior to any treatment, shall be collected for the performance of a “treated-water SUVA jar test”. Such “treated-water SUVA jar test” shall simulate actual plant conditions relative to coagulation, flocculation, and sedimentation. No oxidant, disinfectant, or ferric salts shall be employed in this jar test. Plants using ferric salts must replace the ferric with an equivalent amount of alum in the “treated-water SUVA jar test”. After coagulation, flocculation, and sedimentation have been simulated in the jar test, samples of the supernatant shall be collected for DOC and UV₂₅₄ determination. The results of such samples are to be used as the basis for calculating the finished water SUVA value under ACC #6.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1198 (June 2004).

§1313. Amendment to the Step 1 Required Removal of TOC matrix table under 40 CFR 141.135(b)(2) to Clarify ACC #1

A. In order to clarify the requirements for a system to be able to achieve ACC #1, the “Step 1 Required Removal of TOC by Enhanced Coagulation and Enhanced Softening for Subpart H Systems Using Conventional Treatment” matrix table under 40 CFR 141.135(b)(2) is hereby amended to read as follows:

STEP 1 REQUIRED REMOVAL OF TOC BY ENHANCED COAGULATION AND ENHANCED SOFTENING FOR SUBPART H SYSTEMS USING CONVENTIONAL TREATMENT^{1 2}

Source-water TOC, mg/L	Source-water alkalinity, mg/L as CaCO ₃ (in percentages)		
	0-60	>60-120	>120 ³
\$2.0-4.0	35.0	25.0	15.0
>4.0-8.0	45.0	35.0	25.0
>8.0	50.0	40.0	30.0

¹Systems meeting at least one of the conditions in paragraph (a)(2)(i)-(vi) of 40 CFR 141.135 are not required to operate with enhanced coagulation.

²Softening system meeting one of the alternative compliance criteria in paragraph (a)(3) of 40 CFR 141.135 are not required to operate with enhanced softening.

³System practicing softening must meet the TOC removal requirements in this column.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1198 (June 2004).

§1315. Analytical Requirements for TOC, DOC, and UV₂₅₄

A. All compliance monitoring samples for TOC, DOC, and UV₂₅₄ shall be analyzed in a certified chemical laboratory/drinking water or in an EPA-certified laboratory.

B. In addition to any other applicable analytical requirements, all laboratories in Subsection A of this Section which analyze compliance monitoring samples for TOC, DOC, and UV₂₅₄ shall incorporate the quality assurance (QA) and quality control (QC) procedures contained within "EPA Method 415.3, Revision 1.0" dated June 2003 which is titled "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water".

C. The effective date of this Section shall be January 1, 2005.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1199 (June 2004).

Subchapter C. Chlorite/Chlorine Dioxide

§1317. Monthly Reporting Required

A. If a system uses chlorine dioxide, chlorite monitoring results (daily, monthly, as well as any additional compliance monitoring) and daily chlorine dioxide residual monitoring results (as ClO₂) shall be reported to the state health officer monthly. All results shall be on a report form approved by the state health officer. Such report shall specifically be provided to the OPH District Engineering office which has jurisdictional oversight of the public water system within 10 days following the end of each calendar month.

1. Nothing within this Section shall be interpreted to exempt a public water system which uses chlorine dioxide from issuing public notification and consulting with the state health officer as soon as possible but no later than 24 hours after the system learns of an acute violation of the maximum residual disinfectant level (MRDL) for chlorine dioxide.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1199 (June 2004).

Subchapter D. Monitoring Plans

§1319. Monitoring Plan Required

A. Each public water system required to perform monitoring under the requirements of this Chapter shall submit a monitoring plan to the state health officer for review and approval. Such monitoring plan shall specifically be provided to the OPH District Engineering office which has jurisdictional oversight of the public water system no later than the effective date of this rule.

B. The monitoring plan shall include a list of all routine samples required on a daily, weekly, monthly, quarterly, and annual basis and identify the sampling location where samples are to be collected.

C. The public water system shall revise and re-submit its monitoring plan if changes to a plant or distribution system require changes to the sampling locations or if any significant changes to the disinfection methods are made. In addition, the public water system shall update and re-submit its monitoring plan when the system's sampling requirements or protocols change.

D. Minor revisions to a system's monitoring plan shall be submitted to the state health officer upon request.

E. The public water system shall maintain a copy of their approved monitoring plan at each treatment plant and at a central location.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1199 (June 2004).

Chapter 15. Approved Chemical Laboratories/Drinking Water

Subchapter A. Definitions and General Requirements

§1501. Definitions of Terms

A. Words Not Defined. Words not defined in this Chapter shall have the meanings stated in §101 of this Part or other Parts of the Louisiana State Sanitary Code. When words not defined in this Chapter are defined in both §101 of this Part and in another Part of the Louisiana State Sanitary Code, the definition contained within §101 of this Part shall be given preference as it pertains to water supplies. Words not defined in any of these source documents shall have the meanings stated in the Merriam-Webster's Collegiate Dictionary-Tenth Edition, as revised.

B. Definitions. Definitions contained in §101 of this Part shall also apply to this Appendix except where the following special definitions apply:

Analyte—a particular contaminant or value that one is analyzing a water sample for, *e.g.*, temperature, pH, turbidity, disinfectant residual, chlorite, total organic carbon, or UV₂₅₄.

Approved chemical laboratory/drinking water—a laboratory approved by the state health officer under the requirements of this Chapter to analyze and report compliance monitoring sample results for certain physical and chemical analytes associated with drinking water which are not required to be analyzed in a certified chemical laboratory/drinking water.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1199 (June 2004).

§1503. General Requirements

A. Public water systems which provide treatment (other than chlorination) to the water shall provide an approved chemical laboratory/drinking water on-site or make contractual arrangements with an approved chemical laboratory/drinking water off-site to analyze and report results for certain physical and chemical analytes which are not required to be analyzed in a certified chemical laboratory/drinking water.

1. All samples collected for compliance determination shall be either analyzed in a certified chemical laboratory/drinking water or in an approved chemical laboratory/drinking water. Samples collected for compliance determination which are allowed to be analyzed in an approved chemical laboratory/drinking water include the following:

- a. daily chlorite levels (at the point of entry to the distribution system when using chlorine dioxide);
- b. daily fluoride levels;
- c. daily corrosion inhibitor concentrations (orthophosphate and silica);
- d. pH;
- e. calcium;
- f. conductivity;
- g. temperature;
- h. alkalinity;
- i. turbidity;
- j. jar test for ACC #6 (as per Section 1311.B of this Part);
- k. jar tests for determining optimum coagulant dose (including Step 2 TOC removal per Section 1309 of this Part); and
- l. other drinking water analytes which are not required to be analyzed in a certified chemical laboratory/drinking water under other requirements of this Part or USEPA requirements.

B. In order to ensure an accurate and true representation of the level of an analyte associated with drinking water, the requirements of Subsection A of this Section shall not be construed to allow an approved chemical laboratory/drinking water off-site to perform a physical or chemical determination of an analyte when such analyte cannot be satisfactorily fixed, preserved, or transported (*e.g.*, disinfectant residual levels, etc.).

C. An approved chemical laboratory/drinking water shall perform all analyses using the laboratory methodology specifically required to be used under the provisions of this Part for such analyte.

D. Particularly for distribution system monitoring, nothing herein shall be construed to prevent a public water system from determining the residual disinfectant concentrations for free, combined, or total chlorine by use of DPD colorimetric test kits.

1. When using a DPD colorimetric test kit and the concentration of chlorine is found to be equivalent to or above the top range limit of such test kit, proper dilution of a fresh sample of water using distilled or deionized water shall be performed and the test repeated to determine the true level of chlorine residual present in the water. This may be accomplished using a 1:2 dilution - - 1 part fresh sample of water to be tested to a total of 2 parts of water in the sample vial. For example, 5 ml (1 part) fresh sample of water to be tested, with 5 ml of distilled or deionized water added for a total of 10 ml (2 parts) of water in the vial. The diluted sample is run as usual; however, the result determined is then multiplied by 2 to obtain the true level of chlorine present in the water sample.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1199 (June 2004).

§1505. Staffing, Equipment, Quality Control and Records

A. There shall be sufficient staff to perform the tests required.

B. There shall be sufficient supplies, equipment and space to perform the required volume of work with optimal accuracy, precision, timeliness and safety.

1. All approved chemical laboratories/drinking water for public water systems that use chlorine dioxide shall be provided with an amperometric titrator with platinum-platinum electrodes capable of measuring chlorite to a minimum accuracy of plus or minus 0.05 mg/L.

2. pH must be conducted using a pH meter with a minimum accuracy of plus or minus 0.2 pH units.

3. Water temperature must be measured using a thermometer or thermocouple with a minimum accuracy of plus or minus 0.5 degrees Celsius (0.5°C).

C. An approved chemical laboratory/drinking water shall ensure that satisfactory provisions are maintained for an instrumentation preventative maintenance program, an acceptable quality control program, and an approved proficiency testing program covering all of the various types of analyses performed.

D. An approved chemical laboratory/drinking water shall ensure that records and reports are satisfactorily maintained and retrievable. Copies of records and reports for any off-site approved chemical laboratory/drinking water shall be filed in a folder identifying the public water system by name as well as its public water system identification number (PWS ID #).

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1200 (June 2004).

Subchapter B. Procedures to become an Approved Chemical Laboratory/Drinking Water

§1507. Application and Approval

A. All public water systems which provide treatment (other than chlorination) to the water shall submit a completed "Request for Approved Chemical Laboratory/Drinking Water" form to the state health officer. If the

public water system uses one or more off-site laboratories, it shall be the responsibility of the public water system to notify each such off-site laboratory to submit its own completed “Request for Approved Chemical Laboratory/Drinking Water” form to the state health officer.

B. The “Request for Approved Chemical Laboratory/Drinking Water” form shall list all analytes run by the laboratory as well as the associated laboratory methodology. In addition, laboratories holding the status of an approved chemical laboratory/drinking water shall maintain a readily available list of the names and PWS ID #'s of all public water systems it currently serves.

C. Based upon a satisfactory review of the contents of the submittal (along with a signed statement by any off-site laboratory agreeing to allow unannounced inspections of the laboratory facilities, including any applicable records, by the state health officer), the state health officer shall issue a Certificate of Approval to the public water system or off-site laboratory granting it the status of a “DHH-OPH Approved Chemical Laboratory/Drinking Water”. Each laboratory facility receiving a Certificate of Approval under this Subsection shall prominently display such certificate.

D. Any correspondence, certificate, advertisement, laboratory results, etc., to or from a “DHH-OPH Approved Chemical Laboratory/Drinking Water” shall state prominently in bold lettering the following statement:

1. **This “DHH-OPH Approved Chemical Laboratory/Drinking Water” does not meet the higher criteria required by DHH-OPH to be classified as a “DHH-OPH Certified Chemical Laboratory/Drinking Water”; therefore, any results reported from this laboratory for drinking water parameters which are required to be analyzed in a certified chemical laboratory are officially deemed invalid.**

2. Any sample results for a public water system which are officially deemed invalid for failure to have them analyzed in a certified chemical laboratory/drinking water may result in a monitoring violation if replacement samples are not collected and properly analyzed by a certified chemical laboratory/drinking water within the prescribed monitoring period. Any monitoring or analytical violations require public notification as prescribed in Section 313 of this Part.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1200 (June 2004).

Subchapter C. Consequences of Non-Compliance

§1509. Public Notification

A. If it becomes apparent either through laboratory reporting, on-site visits, or any other means that the “DHH-OPH Approved Chemical Laboratory/Drinking Water” is either intentionally or unintentionally not using or improperly using the required analytical methodology to perform an accurate and precise determination of an analyte associated with drinking water, the “DHH-OPH Approved Chemical Laboratory/Drinking Water’s” Certificate of Approval shall be immediately suspended or revoked by the state health officer, and all public water systems utilizing such laboratory shall provide public notification as prescribed in Section 313 of this Part.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1201 (June 2004).

Chapter 17. Lead and Copper Rule

§1701. General

A. Pursuant to a revision of the definition of *National Primary Drinking Water Regulations* published in the March 20, 1994 *Louisiana Register* (LR 20:545), the Department of Health and Hospitals (DHH) Office of Public Health (OPH) initially adopted by reference the United States Environmental Protection Agency's (USEPA) federal Lead and Copper Rule (LCR) as published in the *Federal Register* dated June 7, 1991 (Volume 56, Number 110, pages 26547 through 26564), including the federal Lead and Copper Rule corrections as published in the *Federal Registers* dated July 15, 1991 (Volume 56, Number 135, page 32113) and June 29, 1992 (Volume 57, Number 125, pages 28788 through 28789). Pursuant to another revision of the definition of *National Primary Drinking Water Regulations* published in the May 20, 2000 *Louisiana Register* (LR 26:1037) and the provisions of paragraph 12:026 (now §377), further technical corrections [as published in the *Federal Register* dated June 30, 1994 (Volume 59, Number 125, page 33862 through 33864)] to the federal Lead and Copper Rule were adopted by DHH-OPH. Pursuant to yet another DHH-OPH revision of the definition of *National Primary Drinking Water Regulations*, published in the October 20, 2004 *Louisiana Register* (LR 30:2326) and the provisions of §377 of this Part, the DHH-OPH adopted by reference the USEPA federal Lead and Copper Rule Minor Revisions (LCRMRs) as published in the *Federal Register* dated January 12, 2000 (Volume 65, Number 8, pages 2003 through 2014) as well as additional technical corrections to the Lead and Copper Rule as published in the *Federal Register* dated June 29, 2004 (Volume 69, Number 124, pages 38855 through 38857). The regulations in this Chapter are promulgated in order to clarify the State's discretionary decisions allowed by the federal requirements.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:2327 (October 2004).

§1703. Certification of Sampling Sites for Compliance Monitoring

A. Community and non-transient non-community water systems shall complete and submit a DHH-OPH certification form listing each site selected for compliance monitoring and the site's associated tier level (tier 1 sampling site, tier 2 sampling site, or tier 3 sampling site) as well as whether or not the site is served by a lead service line. The various tier levels are defined in 40 CFR 141.86(a). Such systems shall additionally certify that a materials evaluation of the system was completed as per the requirements of 40 CFR 141.86(a) and shall, based upon such information, indicate whether or not the system has any lead service lines in use. The date of completion of the materials evaluation shall be indicated as well on the certification form. If any lead service lines are in use, an approximate number shall be indicated on the certification form. The certification form referred to in this Section shall be signed by the certified operator of the water system and shall be submitted to the state health officer at least 14 business days prior to the commencement of compliance monitoring. Upon request, a copy of any documents, information, or other data relative to the material evaluation or tier selection shall be provided to the state health officer.

AUTHORITY NOTE: Promulgated in accordance with R.S. 40:4(A)(8) and 40:5(2)(3)(5)(6)(17)(20).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:2327 (October 2004).